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April 1996

How to Get a Job in the Game Industry

Want to play games for

a living? You can do it.

We show you how, p.34

MDK

Exclusive: life after
Earthworm Jim **for**
Shiny Entertainment

Jaguar Extinct

The last days of
the company that
invented videogames?

volume **two**

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M2

The hardware's ready.
So is it any good?
Prepare to be surprised

MDK is the working title of Shiny Entertainment's first next-
generation project. "We're gonna thrash the PC faster than
anyone's ever thrashed it before," promises Shiny's Dave
Perry. The exclusive first look begins on page 56

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THE WAY GAMES OUGHT TO BE: High-octane game theory from Chris Crawford

Labor of **Love**

"Nothing is really work unless you would **rather be doing something else,**" said Sir James M. Barrie. He was wrong. Some people get to work in the game industry.

Shiny Entertainment's Dave Perry loves his work and has successfully progressed from earning $50 per game while he was at school, to running his own development studio in Laguna Beach, CA. As **MDK** (the working title for Shiny Entertainment's first next-generation game) is unveiled on page 56, Perry also contributes to our **How to Get a Job in the Game Industry** feature, starting on page 34.

His personal advice for would-be programmers? "Get a crappy old PC, a shareware C compiler, a math degree and **impress me with a demo** (no, not a game, a 3D demo — maybe a car rotating or something). Invest some time, buy some books, and **the doors will swing open.**"

But there are other entry-level jobs in the industry that involve working with games. We show you what they are and suggest how you can get one for yourself. "Do your work with your **whole heart** and you will succeed — **there is so little competition,**" Elbert Hubbard counseled. It's probably sound advise, but as Dave Perry concludes...

"**It's not easy,** or everyone would be doing it."

NEXT
GENERATION

NEXT GENERATION

April 1996

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NEXT Generation shares editorial with the
UK-based magazine EDGE. And now, for
the third time, the TOC. It's "command-s",
LA Boy! That's ok —"adversity is the
doorway to greatness." RS off to the All
Star game! Woo-hoo! Yeah baby! Sorry
about V-day GW. I'll make it up.

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Which game machine would David Perry buy?
Having spoken to the heads of Sega, Sony, Nintendo and every other pretender to the 32-bit throne, we seek the opinion of a (very)
connected independent observer. Dave Perry, industry pioneer and platform game king, waxes eloquent on our multiconsole future

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How to get a job in the game industry
They don't call them the best jobs in the world because they're easy to get. This month, we give you everything you need to get your
foot in the door: A rundown on the best entry positions, advice from the experts and hundreds of company contacts

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News
Rumors of Jaguar's demise are exaggerated, say Atari officials • AM2 tries out new variations of the *Virtua Fighter* theme • Nintendo delays the Ultra 64 (again) and drops Ultra from the name

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Alphas: 11 games previewed
Our exclusive preview of Shiny's newest next-generation PC game • An interview with AM3, *Manx TT*'s developers • SCEA's second-generation game, *Tenka* • *Panzer Dragaan 2*, and more
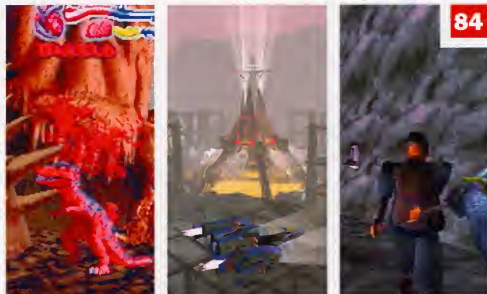
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Finals: 35 games reviewed
The last word on all the latest videogames, reviewed and rated by the best in the business. If you want long-winded, blowhard, lovey-dovey reviews, then put this magazine down

If the suspense doesn't kill you, something else will.

Your team should not be misled by the neat and orderly appearance of this isolated mansion. A major corporation's been conducting questionable research here. You'll soon discover the results of some very, very careless experiments.

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from initial reconnaissance team. No backup. You are on your own. **CAPCOM**® **RESIDENT EVIL**™

Shiny Entertainment's Dave Perry was the most famous Western game developer of the 16-bit era, with a hit list that includes *Aladdin*, *Cool Spot*, and *Earthworm Jim*. Now, as both Shiny Entertainment and **Next Generation** readers make the move to the next generation, it's time to ask…

So, which game machine would Dave Perry buy?

Photography: **Mark Koehler**

Having repeatedly interviewed the heads of Nintendo, Sony, and Sega, every now and then **Next Generation** enjoys getting an independent point of view. In a gaming world bustling with strategic alliances, corporate investments, publishing deals and "most favored developer" badges, a genuinely unbiased opinion is hard to come by. But Dave Perry owes favor to only Interplay (the company owns a small stake of Shiny Entertainment), and he is never afraid to speak his mind.

So far, Shiny Entertainment hasn't been a player on the next-generation battlegrounds. At one point, 3DO was touting Shiny as one of the lead developers for M2. And prior to Shoshinkai, Perry was loud in his support for Ultra 64. But now — with still no PlayStation and Saturn titles unveiled — Shiny Entertainment is embarking upon *MDK*, its first PC title. So has the "console kid" turned his back on the hardware companies on whose systems he built his reputation? Does he feel that the PC is the way forward? **Next Generation** caught up with Dave at the Shiny Entertainment HQ at Laguna Beach, CA.

Shiny Entertainment's Laguna Beach HQ, and home of *Earthworm Jim*. The company set up shop just minutes down the road from Virgin, where the core team used to work

What about Ultra 64?

NG: In 1995, you were quoted saying that you were very keen to develop for Ultra 64. But now you have announced that your next project is for the PC. Why no Ultra 64 project?

DP: *MDK* was already being designed before we had decided Ultra 64 or PC. As a team previously devoted to the world of cartridges, the Ultra 64 would have been our safest and easiest bet. However, we needed more. We had big plans for the game and needed some digital real estate to squeeze it into. The new hope became the CD-ROM-beating "magnetic media" Nintendo promised us. We waited and waited, finally I flew to Tokyo to see it. No sign of it anywhere.

Hence the PC decision. To make us happy we thought of reasons why we would prefer the PC, like — more time to work on the game as we won't have to wait for cartridges to be manufactured, for instance.

NG: What were your impressions of Ultra 64 at the Shoshinkai show?

DP: Initially, after sitting in a plane for 11 hours and after all the hype, I was expecting the $40,000 Silicon Graphics' experience that had been eluded to. Of course, this was not going to be the case. However, the machine was very impressive for the money. Then again, anything would have looked good after all that airplane food.

NG: Do you believe that the system offers a quantum leap in performance over and above PlayStation and Saturn?

DP: From the Clive Sinclair days of British home computers. The "QL" or Quantum Leap was no great leap at all, however, it was nicely packaged. I feel the same way about the Ultra 64: Nintendo has done exactly what it needed to do to

make itself a gap. The definition of the word "Quantum" is actually "The minimum amount by which certain properties of a system can change." So enough said, I agree with you.

NG: As a game developer, where do you see Ultra 64's strengths and weaknesses?

DP: The cartridge is the weakness. It removes the ability to slam in copious amounts of animation, sounds, and spectacular effects. Its strength is the highly-detailed (Hi-Res) display and the funky joypad.

NG: If you were to develop an Ultra 64 game, how would you go about making use of the analog/digital joystick?

DP: If I was on a hover bike, I could lean accurately into the corners. The only thing that Nintendo forgot was to make the buttons analog as well. Imagine punching with different strengths or jumping to the height you want. I guess we will get that on Ultra 128.

NG: Does the prospect of a Nintendo online gaming network excite you?

DP: Yep — It's time. It also can turn a game that would get boring quickly into a game with thousands of hours of gameplay. Finally, it supplies real learning intelligence to play against which is still vacant in any game I have played. On the downside, expect to lose a lot of games to hermits that *live* on the network.

S&M & Saturn

NG: Were you surprised by the technical virtuosity of *VF 2* and *Sega Rally* on Saturn?

DP: No, I have been waiting for somebody to make the move. Well done Sega! Especially the leap from *VF1* to *VF2*.

> "The cartridge is [Ultra 64's] weakness. It removes the ability to slam in copious amounts of animation, sounds, and spectacular effects. Its strength is the highly detailed (Hi-Res) display and the funky joypad"
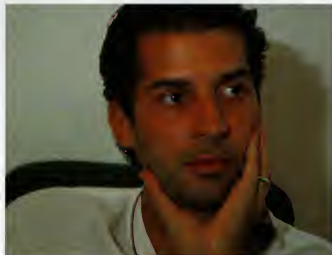
NG: How was Sega able to produce such a technological leap forward?

DP: The Saturn does not make you breakfast in bed — which is what the hype proposed. You actually have to do some work, and to make it perform you need a large whip. Finally, programmers are convincing it to jump through hoops by using tight/fast RISC code, not sloppy textbook C programming.

NG: Will independent and third-party developers — such as yourself — be able to achieve similar results?

DP: Funnily enough, I was down at the whip shop last week...

NG: Has Sega actively been sharing its secrets with the development community?

DP: Not really. It offers technical support. It is in Sega's interest to give away *Sega Rally* code to developers. However, Sega is making big bucks off it at the moment, why should the company give that away? It is a big decision, I doubt it will happen. But O.J. walked.

NG: If Sega doesn't share its secrets with the third-party developers, it will result in less good Saturn games being produced, and it will also discourage third-party game development because no one will be able to compete with Sega's own games. Would this be suicide?

DP: Sega makes very good arcade games. This translates — via great teams — into very good games. That gives Sega a built-in safety buffer. However, it still needs the good third-party publishers and developers who enhance the credibility of the machine. Sega should adopt the same attitude as Nintendo and protect its shelf space, if this means giving code to developers to keep overall quality high, then so be it.

But maybe then *Sega Rally* fans will end up with *Sega Rally 1,2,3,4,5,6,7...*

NG: What is your prognosis of Saturn's future?

DP: I expect a graph of success shaped like the Himalayas. As each hit pops up so will interest, then it will swing low. This will happen until all programmers get to grips with

the machine, then there will be a steady interest.

NG: So you see inevitable success for Saturn?

DP: If things stay on course and kids don't sell their soul for Ultra 64 (as they will in Japan). Yes, there is room for Saturn, it has got up from the floor and just taken a swing back at Sony. Somebody should make the Sony vs. Sega fighting game and write it on Ultra 64.

What second generation?

NG: Would you agree that having started out with some very impressive games, PlayStation's development presently seems to have stagnated?

DP: Sony is doing its best to "keep 'em coming." All that you are experiencing is the infamous "too many games" syndrome. Hopefully, Sony will begin to filter out the rubbish. Then you will feel more positive in general toward the software. There are a lot of very talented people working on it. Sony is being well supported.

NG: What evidence have you seen that Sony will be willing to filter out the bad titles?

DP: I like Sony. It has done a *great* job selling PlayStation, and it is just getting too popular as far as developers goes. I don't buy PlayStation games anymore as I bought a bunch of turkeys that, over time, wear down a buyer's interest. It did with me.

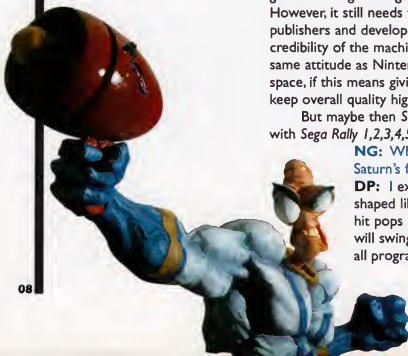**NG:** Why are you not developing PlayStation games yourself?

DP: We are, however, the game is secret at the moment. It is based on a whole new set of characters. No, not *Earthworm Jim*. These characters were revealed at the Toy Fair in New York. We've been keeping the whole thing quiet.

NG: Sony is claiming that with its second-generation software engines, PlayStation is capable of running the original *Ridge Racer* at 60 fps. That's an improvement of over 100%. Do you think that this claim is true?

DP: Totally. However, I don't want *Ridge Racer* at 60 frames per second. I want *Ridge Racer* at a screen res. of 640 pixels across by 480 pixels deep. If Sony can do that, then it is smoking.

NG: Why do you feel that resolution is more important than frame rate? Is this true for all game genres?

DP: Yes, on a road it enables you to see farther into the distance. This enables you to negotiate obstacles better and so enjoy playing more. Big pixels mean blocky vision — I don't like my vision blocked. It also adds detail — you could make out facial expressions on characters, for example — and that's important. It also enables some cool programming tricks and effects!

"Saturn does not make you breakfast in bed — which is what the hype proposed. You actually have to do some work, and to make it perform you need a large whip"

NG: How do you think second-generation PlayStation software compares to Ultra 64 games?
DP: Nintendo has already got the filter on what I mentioned a few questions ago. That means it will come out fighting and will keep leaving the player feeling positive toward the quality of the experience. Sony hopefully will take the same approach, then it's gloves off.
NG: Why do you think PlayStation did so much better than Saturn in 1995?
DP: The initial games on Saturn were disappointing. *Ridge Racer* was impressive. Magazines, school yard chatter, and the Internet quickly spread the news.

The "other" platform
NG: Why choose the PC as the lead platform for your next game *MDK*?
DP: It was a target we had dismissed, however, now Windows 95 is around and the hardware is finally strong enough to support a three-dimensional action game, the timing is perfect.
NG: There are more games made for the PC than for any other game system. What gaps do you think there are in the PC game market?
DP: A good game makes a gap. The PC market has no filter!
NG: A lot of people are talking about 3D graphics and multimedia accelerator cards as the "Next Big Thing" on the PC game scene. Do you see this happening?
DP: Yes, over time. But it will take time, until a killer game arrives that drives people to buy the hardware. When that game arrives, the news will spread. But it will take more than *Sonic the Hedgehog*.
NG: Windows 95. The games aren't selling. So is it a good thing?
DP: Yes, it's good. Give it time, there is a distinct lack of whips at the moment. Spreadsheet gurus are reaching for their joypads. Meanwhile, development companies are still reading through all the documentation. In the meantime, games

like *Earthworm Jim* on Windows 95, for instance, are selling just fine.
NG: What is the future for gaming on the PC?
DP: Currently hanging in behind the console market. Finally the quality of games will far surpass the console market, however, as always, more costs more.
NG: So you believe that PC games on high-end (although still mass-market) systems will out-perform Ultra 64 and M2 titles?
DP: Yes, it is a while away, however. It is also silly to think that 8-to-16-year-old children — our best target market — are going to be buying these machines. That is why the console market will always win in reality. Also, as console companies control the quality of their games, the PC market has no such overseer. So to clarify, the answer is "sort of." I will be playing cool PC games at home, but we won't stop making console games in the office.

The 3DO/M2 paradigm
NG: Shiny was being touted as one of M2's premier developers. Is this still the case?
DP: We were considering Matsushita's M2, but we have postponed the title until the machine hits the shelves.
NG: From what you've seen of M2 so far, what has impressed you, if anything?
DP: I have not seen the final machine. The specs are very impressive, the silicon is cooking. We are all waiting to see what dinner tastes like.

> **"As console companies control the quality of their games, the PC market has no overseer... I will be playing cool PC games at home, but we won't stop making console games in the office"**

Dave Perry has always been a supporter of Sega, but now his attention has turned to the PC. Is the 32-bit age doomed to failure before it's truly started? What about Ultra 64 and M2? Perry argues that the 64-bit generation has enough problems to cause them trouble, but "Nintendo will win in the end," he argues

talking

The 32-bit generation hasn't been kind to the small, independent game developer so far. The main prizes have gone to the large, big-budget studios. Can Shiny break the mold?

"I have not seen the final machine [M2]. But the specs are very impressive and the silicon is cooking. We are all just waiting to see what dinner tastes like"

NG: What's your understanding of what Matsushita will do with the M2 technology?

DP: I have no idea and that's my worry. Because Matsushita is big, it is not to be ignored or dismissed. It wears big shoes and could kick some major butt. However, I am still waiting to hear a plan. I hope that, like Sony, it really goes for it. Otherwise, it could turn out to be the most fun laserdisc player in the consumer electronics store that comes with a free joypad.

NG: What do you think about Trip Hawkins right now? Is he happy or sad?

DP: Cha-Ching! [Grins]

NG: From a developer's perspective, how big a problem is the fact that The 3DO Company handed over all developer support to Matsushita?

DP: Either we will beg them to stay or we had better brush up on our Japanese.

NG: Describe the best and worst case scenarios that you could see unfurling for Matsushita and M2 over the next couple of years.

DP: At best, 3DO keeps supporting developers, an M2 machine ships in September, and 3DO has something cool like *Alpine Racer* running better than the arcade machine. At worst, 3DO goes away, Matsushita is left on its own to deal with M2. It misses Christmas and it has no games and no Christmas presents. Game over.

State of the game

NG: Do you think that 32-bit games you've seen to this point are better than 16-bit games, other than their graphical aspects?

DP: Yes and no, we have plans to bridge the gap. We think we have identified room for maneuver.

NG: Are you excited about the potential for networked, multiplayer gaming? If so, what are the problems associated with its development, and in what form do you think mass-market, multiplayer, networked gaming will eventually appear?

DP: I can't wait, neither can the people who want to sell you ways and methods to do it. That's the problem, it will take time before winners, formats, and protocols emerge. Then it will be great. But then that's also what they said about VR...

NG: What is the coolest thing about *MDK*?

DP: The chilling feeling of murder and power.

NG: Who — or which company — do you think is making the coolest games right now?

DP: Sega on console, Namco on arcade, and Westwood on PC.

NG: Are there any that have made you think "Damn, I wish I'd done that"?

DP: *Virtua Fighter 2* is technically excellent. The companies I watch and admire now are Sega "AM" teams, Namco, Rare, and Psygnosis. I totally respect these companies and would pat them on the back if they were in my office right now.

NG: What are Shiny Entertainment's goals?

DP: To stay small, potent, and focused. And to hire more Scottish people.

NG: We know about *MDK*. You mention that you are working on a new game for PlayStation with a new set of characters. Can you tell us more?

DP: It's for PlayStation & Saturn. The Saturn engine is 100% RISC. It's 3D. It has moves I always wanted to put in a game. It is realtime (not FMV). It is top secret and the first snippet will appear on the Shiny World Wide Web page when construction has finished (http://www.shiny.com).

NG: If a friend asked you which game system he should buy now, what would you recommend?

DP: Wait for Ultra 64 if you don't mind forking out $70 a game. If you like arcade games, go with Saturn. If you're tight on cash, wait a week and pick up a few Jaguars for $50. Ouch. **ng**

MDK provides gamers with a sense of murder and power, says Perry. See the exclusive preview on pg. 56

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news

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Ultra 64 delayed
until September 30

Nintendo delays its 64-bit game machine. Again

Hiroshi Yamauchi, NCL's Chairman, gets his wish for a Japanese launch of April 21. U.S. gamers aren't so lucky, having to wait five more months

As predicted in **NG 14**, Nintendo of America has been unable to make its target launch date of late April for Nintendo 64. The shocking lack of finalized software displayed at the machine's unveiling at Shoshinkai in Tokyo last November led many industry pundits to suspect that Nintendo's April target was impossible. It would seem that this is, in fact, the case — at least in the US. The Japanese launch remains on target for April 21, with European gamers having to wait until late 1996.

Nintendo of America isn't blaming a lack of software as the cause of Nintendo 64's second rescheduling, however. On February 1, in an open letter to the game industry, Peter Main, executive VP, Sales and Marketing, Nintendo of America, attempted to place a positive spin on the announcement, promoting the idea that were Nintendo to try and launch Nintendo 64 (as the machine is now officially known) around the world simultaneously, the company simply wouldn't be able to meet demand.

"Since [Shoshinkai]",

the realities of attempting to pull off such an enormous, virtually simultaneous marketing feat have caused us to reconsider," he claimed. In defending this analysis, Main goes on to cite a survey of Japanese software licensees undertaken by Takarajimasha Publications in Japan. According to Nintendo, having witnessed Nintendo 64 at Shoshinkai, 65% of those surveyed predicted sales of more than three million hardware units in the first year. Before Shoshinkai, a similar survey had indicated that only 37% predicted sales in excess of three million.

> **"According to those who know the market best, Nintendo 64 in Japan alone, in year one, would easily exceed all worldwide sales to date for Sony's PlayStation"**
>
> **Peter Main,** Nintendo of America

Nintendo claims that this change in expectations is the cause of its reappraisal of the situation, and not a lack of finalized games.

Nintendo 64 was unveiled to the world at the Shoshinkai exhibition in Tokyo last November

"We were greatly gratified (and more than a little overwhelmed) with the predictions," said Main. "According to those who know the market best, Nintendo 64 in Japan alone, in year one, would easily exceed all worldwide sales to date for Sony's PlayStation. At that point, we decided to avoid, at all costs, the huge problems the videogame industry encountered in 1995 when the U.S.

Kong Country cartridge. The performance standards for this type of product or marketing support behind product are measured as Average Seek time (AST) and Data Transfer Rate (DTR). The AST for the N64 disk drive unit will be 150 ms, or almost twice as fast as existing standards for either PlayStation or Saturn. The DTR is 1 MB/second, or more than triple the speed of the competing products."

Nintendo gives no launch date for the "bulky drive," but — for the trade at least — Main reveals that "[It] will have its official North American debut with much fanfare at E³ in Los Angeles this coming May."

Official line...

Nintendo of America's president Howard Lincoln discussed the delay with Next Generation:

"It's primarily just a supply and demand problem. When we went into the Shoshinkai Show we were shooting for a simultaneous launch. We had never done that before but we thought that we could do it. But when we measured the demand after the show (particularly the demand in Japan), it became very apparent that if we were to stick to a simultaneous launch, we would have been shooting ourselves in the foot... We would have ended up dribbling out a little bit in each [country], causing all sorts of aggravation not only at the consumer level but at the retailer level.

"Look at the Sega experience. In May they made a calculated decision to do what they did, but a lot of retailers weren't too happy about that. I'm sure they had good reasons ... and I'm not taking shots at them, but it's an example of what can happen if a launch is not well done."

So what's the hold up?

"The main problem is the production of the two key chips, the 64-bit CPU and the reality coprocessor. [But] we now know that we have a winner on our hands, and I think any disappointment will be gone in an instant when people get their hands on these machines."

and other markets failed to receive full product or marketing support behind either Saturn or PlayStation launches."

Quite what these "huge problems" experienced by Sega and Sony might be, Main doesn't say. Is he claiming that Sony and Sega could have sold more PlayStations and Saturns, if only they had had more to sell? Surely not. Nintendo (along with The 3DO Company) were vocal throughout 1995 in attacking their competitors' sales figures, promoting the idea that PlayStations and Saturns were simply not selling at all. A paradox? Perhaps, but Nintendo is a company that has gotten used to having its cake and eating it.

"We've chosen to avoid the mistake of not being able to fully support a U.S. launch at the same time Japan launches," is as near as Main gets to a concrete justification.

In regard to the "bulky

drive," Main offered some fresh news. "This writeable disk drive unit will be attached to the bottom of the N64 console, with magnetic disks front-loaded into the unit. As a further expansion to the N64 system, the disk drive unit will be bundled with a 1 or 2 MB expansion RAM pack.

"The magnetic disks will measure 3 3/4" and will hold 64 megabytes of data," Main continued. "[This is] approximately 16 times the data contained in the Super NES *Donkey*

Howard Lincoln, Nintendo of America's president, talked at length to NG about the delay. Check out *NG OnLine* for the full story

Regarding price, Main said:

"The [price] is not yet set, but we are intent on positioning it as a system expansion: significantly less expensive than the unit on which it plays."

So, Nintendo 64 will launch on September 30 with "eight to 12" games available by the year's end.

Next Generation doesn't buy Nintendo's story that the delay is simply due to it not being able to "fully support" a worldwide simultaneous launch. Prior to Christmas of 1995, a Nintendo spokesperson refused to deny that finished Nintendo 64 units were boxed and "ready to go" at Nintendo's US warehouse. And having scored big with Super NES in '95, Nintendo still has the infrastructure in place to muscle Nintendo 64 to the marketplace, if it so desired.

The problem has to be one of a lack of finished games. And given that Nintendo and its "Dream Team" have been working on software for the last two years, this has to mean that either Nintendo 64 is a dog to develop for, or the strength of PlayStation and Saturn titles have scared Nintendo back to the drawing board with many of its supposed killer apps. **ng**

Midnight Express

Konami America, known for its shooting games and late '80s hit *Teenage Mutuant Ninja Turtles*, has hit the speedway running with its newest racer due in the arcades in mid-March. Using a specialized PC engine, *Midnight Run*, shown to Next Generation in February and also shown at the London Trade Show, can be hooked up to play with as many as four players or can be linked to just two. The game's big "feature" is its ability to enable the player to switch from automatic or five-speed manual transmissions during the game, while additionally making use of the realistic pull effect of feedback steering. With a choice of four cars (ranging from quick, to all-around characteristics, to better cornering, etc.) and three urban night-like courses, this new racer may compete with the likes of *Ridge Racer and Indy 500*.

breaking

Crumbling Atari
still defiant

Despite industry-wide rumor and heavy company lay-offs, Atari executives deny that the Jaguar is at its end

While Jaguars are still for sale on U.S. store shelves, Atari will refuse to admit — if the last machine has been manufactured

Following the departure of Tedd Hoff, and the laying-off of 20 staff, many pundits predicted that Atari's days in the game industry were effectively over

Despite senior resignations, staff lay-offs, an absence of any tangible strategy for the future, and persistent rumors of its demise, Atari insists that it is sticking with the game industry, with software development, and with Jaguar.

At the time of going to press, however, Atari was in a state of disarray. Remaining company insiders report an atmosphere of confusion, with many not appearing to understand what the future holds. One department of game testers simply decided to carry on "testing" a game that had previously been finalized simply for lack of there being anyone around to tell them what else to do.

What is known is that the company is planning to up and move to new offices, but whether it knows where it is going is up for debate.

Following the abrupt departure of U.S. Operations Director Tedd Hoff, and the laying-off of 20 staff, many pundits predicted that Atari's days in the game industry were effectively over. Certainly, in interviews after his departure, Hoff intimated in the strongest terms that he did not believe Atari could function in the game industry in its current state.

The 24-year-old company — the first and oldest in the videogame business — however, responded defiantly if not wholly convincingly. August Ligiori, chief financial officer told **Next Generation**: "We were in the videogame business a long time before Ted joined us. Just because he has gone does not mean that we are quitting the business. The story you've heard is not true.

"We sounded this market in the first place and we are not about to give it up," continued Ligiori. "We are still supporting Jaguar and we are still continuing with our recently announced plans in regard to Atari Interactive. We have re-organized and we are

looking carefully at all our operations, but we are still developing the same number of titles."

Following this stock statement, however, Atari appears to have shut up shop as far as communicating with the outside world is concerned.

On the unfortunate subject of the 20 lay-offs, Hoff told the entertainment and business magazine *Variety*: "It was an indication that Atari's long-term intentions were not to continue in pursuit of videogame development or publishing, neither for Jaguar nor Atari Interactive."

According to Hoff, most of the lay-offs came from the creative and development end of the company and those left would not be "the ranks you would need to continue in the videogame industry."

Indeed, many people are claiming that Atari's Sunnyvale headquarters is running on a mere skeleton staff — plus lawyers, of course. Atari's silence on the subject has not done much to quell the wild rumors flying around the industry, including one curious scenario which would have the company's flamboyant leaders Sam and Jack Tramiel completely sell off all Atari's interests in the game business and buy into a computer components company.
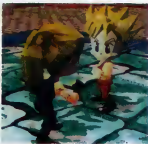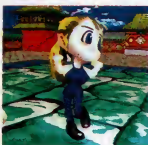
Another theory, however, runs along the line that the Tramiels want to get wholly involved in the game industry again, and Hoff's departure is simply a result of this desire for a fresh start.

Unfortunately, some of the casualties of the past few weeks have

At $99, the Jaguar has benefited from a small boost in popularity. But is this a brave new start, or merely the end?

Virtua Again

AM2 is working on a cutesy version of *Virtua Fighter* which uses Sega's new Model 3 technology developed in conjunction with Lockheed Martin.

***Virtua Fighter Kizu* (Japlish for Kids) was shown at the AOU Show in Japan during February. The game will be similar in style to AM2's other big title for '96, *Sonic 3D*, and delivers a strange visual style characterized by game personalities with extremely large crania.**

NEXT Generation.

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been a few of Atari's most profitable alliances. Jeff Minter is said to have untethered his relationship, a divorce which will dismay beleaguered Jaguar owners who recognize his position as Jaguar's best developer and most enthusiastic visionary.

Some third-parties developers are also expressing disappointment with the lack of information coming out of Atari. High Voltage Software (*NBA Jam, White Men Can't Jump*) says it has not received any word of future Jaguar plans. And Beyond Games (*Ultra Vortek*) says Atari appears to have dropped out of negotiations regarding a proposed sequel to the popular *Alien Versus Predator*.

All this is especially

heartbreaking for Jaguar owners given that the new $99 Jaguar price-point has had some small effect on sales. Selected retailers told **Next Generation** that they had been surprised by the uplift in sales, especially in the first few weeks of 1996.

Atari is the most abiding name in the game industry and few are relishing the prospect of an end to this most colorful (and homegrown) videogame company. **ng**

> **"Atari's long-term intentions [are] not to continue in pursuit of videogame development or publishing, neither for Jaguar nor Atari Interactive"**
>
> **Ted Hoff,** former President of Atari North American Operations, quoted in *Variety* Magazine

In a courageously open and honest interview in NG 7, Atari's President Sam Tramiel talked enthusiastically about Jaguar's future (above). The Atari name has been synonymous with videogaming since the 1970s (top)

Square eyes PS-X

Nintendo's ally finally runs out of patience

World-renowned Japanese RPG market-leader Squaresoft is considering the prospects of releasing its games for PlayStation and possibly Saturn.

In the past, the company behind such well-loved classics as the *Final Fantasy* series, *Chronotrigger*, and *The Secret of Mana* has restricted its release policy to Nintendo's machines. This bond between Nintendo and Square has been one of the most enduring relationships in the game industry and has benefited both companies immensely.

A number of changes, however, has prompted some at Square to move toward a multiplatform policy, with PlayStation at the top of the agenda.

First, Square is now a publicly owned company and it would take a very strange set of shareholders not to ask for an exploration into lucrative new 32-bit platforms.

Second, Square's RPGs

are extremely big games and thus expensive to reproduce solely on cartridges. The comparative cheapness and storage size of CDs make both PlayStation and Saturn look extremely tempting.

Third, both PlayStation and Saturn consoles are poorly served by RPGs. Put simply, Square games would clean up the market.

And fourth, Square has recently opened a Los Angeles office dedicated to researching new graphic techniques for next-generation systems. It is **Next Generation's** understanding that although Ultra 64 is the chief focus of the company's explorations, it is also looking at other machines.

Ted Woolsey, marketing director of Squaresoft US, confirmed that talks were underway with Sony "and possibly other manufacturers," and that executives were debating a move away from its Nintendo exclusivity. No decision has been taken yet, however.

One possibility is that certain new games will be developed exclusively for Ultra 64 and that older games would be converted to the 32-bit platforms. **ng**

> **The bond between Nintendo and Square has been one of the most enduring relationships in the game industry**

breaking

Developers worry
about **M2**'s future

After its $100 million purchase, Matsushita's M2 strategy is still perilously unclear

Trip Hawkins' dream of a global standard for interactive entertainment continues to stumble. But few predicted that he'd ever get this close

"We are worried that Matsushita will not be able to give us enough detailed information to get the most out of this system"

Anonymous M2 developer

S
ome serious questions are being asked concerning the on-going development of M2 software and Matsushita's U.S. strategy as the 3DO-Matsushita "transfer deadline" approaches.

According to the $100 million M2 contract between The 3DO Company and Matsushita, it is up to Trip Hawkins' company to look after third-party developers. But only until April 1, 1996. After that it's up to Matsushita. What is unclear is how Matsushita will handle this crucial task.

Next Generation spoke to some developers who said they were very pleased with the way 3DO had handled difficult technical and creative problems. They expressed concern, however, over the degree of knowledge and industry understanding that Matsushita will bring to the party and how the hand-off will be handled.

One developer

commented: "3DO's contract states that it has to be nice to us up until April, and it has been very helpful. But then it goes away and the people we have become used to dealing with will disappear.

"We are worried that Matsushita will not be able to give us enough detailed information to get the most out of this system. We have to judge whether it's worth making the investment in time, money, and effort."

Another developer, who has

Matsushita plans to release a Panasonic-branded M2 player. It is also in negotiations with Sega and Goldstar

confirmed that it will be working with M2, said: "We have been pleased so far with our relationship, although we are concerned that some things have been slipping in development time. Getting hardware and library routines and all that fun stuff has become much tougher." And yet another developer questioned the value of the system: "It's good, but in comparison to other next-generation systems it's nothing special. It's going to look like you are playing on another polygon-based next-gen system. Not a $4 million flight simulator."

Nevertheless,

Matsushita has not been sleeping. Senior officials from the company's Japanese headquarters have been in the U.S. for prolonged and apparently intensive brainstorms concerning the launch. An announcement on the company's strategy for working with U.S. developers and for launching the machine is expected to be announced in the next few weeks.

Next Generation expects that a new subsidiary will be set up here in the states. Previously, low-level operations for M2 had fallen to Panasonic Interactive, an outfit previously just equipped to develop and market 3DO and PC games. It is also expected that the launch will be delayed until 1997.

The M2 technology is best understood by The 3DO Company. But its support for game developers stops on April 1, 1996
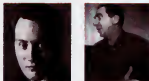
Sony Boss Quits (again)

Two senior figures involved with PlayStation have left SCEA.

By far the biggest shock was the departure of president Marty Homlish, who was interviewed in NG only last month and who has been moved to a different part of the Sony empire. Homlish was originally drafted in after the abrupt departure of Steve Race last summer.

In what looks to be another example of Sony management taking a tighter rein, however, Homlish has been moved over and replaced with SCE Japan's former Vice President Shigeo Maruyama.

Also departing was Sony's Olaf Olafsson who many believe to have been instrumental in launching PlayStation here in the U.S. Some are speculating that Olafsson's Japanese bosses are displeased with the "low" $299 price-point which was set here. They point to the machine's success as proof that it would have handled a higher price and dismiss arguments that the price was a part of the success.

All gone: Marty, Olaf, and Steve (clockwise from left)

breaking

NEC and **VideoLogic** enter 3D war

Another chip takes the PC into the world of smooth, fast 3D

Yet another PC graphics accelerator card joins the marketplace. PC gamers have never had it so good — if they can afford to keep investing

The battle to gain control of the burgeoning graphics acceleration market on the PC is heating up. Following the arrival of Diamond's Edge card incorporating the Nvidia chip and bundled Sega software, and Creative Labs' 3D Blaster, NEC and VideoLogic are now set to announce the release date and full specifications of their PowerVR chip, a scalable high-spec 3D acceleration system.
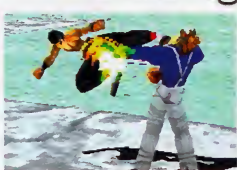
PowerVR provides fast rendering with all the expected selection of 3D effects: Gouraud Shading, true-color modes, rotation, and scaling. The unique thing about this new offering, though, is the way it goes about creating such effects. As Trevor Wing, VideoLogic's group marketing director, says: "There are some special things

Painting lies by numbers?

Many industry insiders have raised disbelieving eyebrows at the hardware sales figures released by Sony and Sega for the 1995 holiday season.

"The numbers simply don't add up," argues one well-placed source at a prominent third-party software house. "Sony is claiming to have sold 800,000 PlayStations in 1995 and Sega is claiming numbers in excess of 500,000 Saturns. From the retail reports we've been seeing, and the relative poor performance of many supposed 'hot' 32-bit games, it would seem that these figures are at best 'wildly optimistic,' and at worst, downright lies."

His claims are echoed by many others in the trade. A full report will appear next month.

The PC continues its assault on game genres hitherto dominated by consoles

about the architecture that are unique to PowerVR. We use what we call a reduced level of architecture which means we eliminate the z-buffer and all the memory hassles associated with it completely. We do have a 32-bit accurate z-buffer function, however, so we forfeit none of its capabilities. Also, because we use an infinite plane-based algorithm — which is different to those used by other chips — we don't need to have anything near the access to the texture memory. This means that our performance is a lot higher. In fact, pick a given performance point and we'll be cheaper because we're not carrying the memory. Alternatively, pick a price you want to spend for the cheapest 3D solution, and we'll probably double the performance of other people's cards."

Nevertheless, all companies producing graphics hardware realize that no matter how marvelous a chip may be internally, it will get nowhere without some great software. NVidia has benefited immensely from the involvement of Sega with the Edge card, and a near-perfect port of Virtua Fighter Remix can only have helped in its quest to initialize a world standard in graphics add-ons.

The PowerVR system, will

benefit from similarly powerful software given that Namco and NEC have already announced their alliance. Rave Racer, Tekken, and Air Combat 22 are all now complete and ready for release in May for the PowerVR system. VideoLogic claims that these conversions not only faithful to their arcade predecessors, they actually surpass them. "If you take the arcade version of Rave Racer and make it a little more solid and a little faster, then you've got the idea. In fact, it's better than the arcade version," claims Wing.

As astonishing as this claim may seem, Wing goes on to assure **Next Generation** that Namco has actually found elements in the chip which can be exploited to accentuate the original titles. "Namco plans to enhance the games to use the special features that PowerVR has, like realtime shadows, search lighting, and perspective-correct texture-mapping."

Expect more detailed information on this latest entrant to an already crowded marketplace next month in **Next Generation**. **ng**

Namco's and Sega's rivalry continues: they fight in the arcades, on rival home systems, and now on rival PC cards

20

We all know that Psy-Q development tools are used for all existing PlayStation software development, but now there is AFFORDABLE, EASY-TO-USE hardware to go along with it.

The new Psy-Q
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Simply plug the small Psy-Q interface adapter into the expansion port of any standard PlayStation and you have a complete development system capable of debugging on real PAL or NTSC machines - with all the associated benefits.

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Compact robust cartridge that plugs directly into a Debugging PlayStation's expansion port. Psy-Q (ISA) SCSI interface fits standard PC compatibles and requires NO additional boxes or power supplies. Screened 2 metre SCSI connecting cable.

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Psy-Q development tools software suite, as used by all existing PlayStation developers includes:

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- **High speed Linker and Librarian. Plus** - the Psy-Q Debugger for Windows 95' allows developers to debug via their ORIGINAL, C or Assembly language source files and support full C expression handling and data browsing.

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Check SN Systems' web site at
http://www.snsys.com

movers & shakers

A monthly look at **business news** affecting the **gaming world**

by **Christopher Sherman**

VIDEOGAME CRASH OF 1995?

N E W S L I N E : Fourth quarter 1995 was rough for videogame companies. Atari, Digital Pictures, and Sanctuary Woods were just some of the companies that laid off employees. Others such as EA, The 3DO Company, Trimark Interactive, and Acclaim felt the heat in the form of lower earnings. Digital Pictures blamed problems with distribution (handled by Acclaim). Acclaim blamed hardware platform transition and heavy price competition. Trimark cited lower than expected installed base of Windows 95 — Trimark's *the Hive* is a Win95 native title. With all the bad news, one consumer on the Internet billed it the video crash of '95.

B O T T O M L I N E : It seems the industry over-estimated the amount of product that retail could support overall. The Saturn-, PlayStation-, and PC-installed base grew measurably, but there were simply too many products out there competing for your hard-earned dollars. Basically, you and I didn't buy enough games over the Holiday. Either that or we did and then returned them for one reason or another. Will 1996 fair better? Saturn, PlayStation and the PC will see much larger installed bases by the end of the year but consumers will have new choices as well — Ultra 64 and possibly Matsushita's M2. This could lengthen the time before the industry gets back on its feet.

ATARI — YOU MAKE THE CALL

N E W S L I N E : Fact: The Atari president of North American operations is gone. Fact: 20 employees were laid off at Atari. Fact: The public relations firm was fired. Fact: Atari is evaluating other strategic business options. Fact: Atari claims it's business as usual.

The oldest name in gaming is here for good, but in what form will the company continue?

B O T T O M L I N E : What is going on here? Our sources have claimed that the company intends to exit the videogame business. Atari says this is not true. One possible scenario: Atari pulls a 3DO (á la M2 Matsushita) and licenses its first best assets (in this case its name, trademarks, and classic games,

perhaps even Jaguar) to a third party who then takes over the entire responsibility for managing this videogame business. Question: Is Atari still in the videogame business? Answer: Who knows?

ELECTRONIC ARTS ACQUIRES MANLY

N E W S L I N E : EA acquired Manley & Associates., a Washington-based independent software developer. EA bought 100% of the company, which will become Electronic Arts Seattle, Inc.

B O T T O M L I N E : Ivan Manley, director of product development at Manley, says the company came to a point where, in order to invest in newer technologies, it either had to become a publisher or merge with an established publisher. Hence EA.

## FOUR WAY MERGER BETWEEN DOMARK, BIG RED, SIMIS, AND EIDOS

N E W S L I N E : Domark Software, Inc. is party to a four-way merger including UK-based Eidos, game developers Simis, and Big Red. The companies will be traded on The London Stock Exchange under the holding company Eidos PLC.

B O T T O M L I N E : The bottom-line says Domark, which makes up the largest piece of Eidos PLC, makes more and better games. With Domark's publishing and development teams, Big Red's and Simis' development strength, and Eidos' video compression and decompression technology, the new company hopes to increase its position in the videogame market. Eidos Plc. also raised approximately. $10 million from institutional investors, which was shared amongst the companies. Eidos' technology, known as Eidos Software Codec (ESC), is marketable beyond the game industry, in areas such as video conferencing.

ACCLAIM TAKES STAKE IN PULSE

N E W S L I N E : Acclaim Entertainment signed separate distribution agreements with Pulse Entertainment and Take 2 Interactive Software.

B O T T O M L I N E : Acclaim continues to bolster its development resources while Pulse gains a guaranteed distribution capability. Strategic partnering at its best.
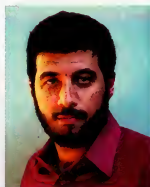
Christopher V. Sherman is the publisher MMWIRE, the leading daily news service on the business of interactive entertainment. MMWIRE ONLINE can be found at http://www.mmwire.com. Email him at multimediawire@interramp.com

ELECTRONIC ARTS

Electronic Arts swallows up another developer to add to Bullfrog, Origin, and the company now known as EA Canada

Native Windows 95 games such as Trimark's *The Hive* aren't selling as fast as had been anticipated in 1995

Speed isn't all you'll need.

IMPACT RACING

A sharp eye and a quick trigger finger will be needed to survive these race courses. Race at breakneck speed and fight back with a powerful array of weapons including guided missiles and a firewall to barbeque any enemies on your tail. A radar system helps you swerve away from sneaky land mines and incoming missiles closing in fast. Destroy enough cars, and you'll race in the psychotic bonus track, a humongous kill-fest that rewards you for how vicious you are.

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JOYRIDING

Let's get one thing straight...

Bernard Yee has contributed to *USA Today* and writes regularly for *PC Gamer*, *PC Magazine*, and has authored several books on gaming

by Bernard Yee

here's been so much misinformation spread recently about "information superhighways" and "nets" and "going online" that it's time for a back-to-basics rundown of what, exactly, is what. Sure, experienced Internet users can switch off at this point. But for those of you who are interested in getting involved online, but have even the vaguest suspicion that maybe — just maybe — those TV commercials have been distorting the facts a little, or at least making mountains out of molehills, let's go back to basics...

What exactly is the World Wide Web? The Web is actually just a series of documents created with HTML, or hypertext markup language. The Internet was just a text-based entity, a huge bulletin board of sorts, with Usenet groups of messages and e-mail flying back and forth. But the Internet was created to be flexible, and that flexibility enabled the creation of the Web and HTML documents. The Web is part of the Internet, which encompasses FTP (file transfer) sites, Usenet groups, IRC chat lines and more. What this means is that a formatted document can be created that is device independent. The document looks the same on any computer, operating system, or CPU, or any web browser — as long as it supports the HTML standards, which are constantly evolving. It's almost as if everyone had *WordPerfect* to view a *WordPerfect* document, on every PC.

But nice fonts are just the beginning; HTML enables special formatting — fonts, background graphics, graphics, and other images — of documents, as well as hot links, text underlined, and in a different color (probably blue or green), which can bring you another HTML document (or web page), at another address (called a URL, or a universal resource locator). HTML documents can be interactive and receive substantive input from users, or just be pretty pictures and

text churned out by a crack team of public relations writers for a corporate conglomerate looking to appear hip and personal. The beauty of the Web Browser is that it's point-and-click aware; you can use your mouse to interact with the screen — and the HTML document, itself. Now to all you young'uns who grew up with Macs and Windows who don't remember operating systems like CP/M, or maybe even MS-DOS — those operating systems didn't have point-and-click interfaces, but relied on keyboard commands and an arcane series of switches and flags. The Internet was based on UNIX, an even more arcane operating system. The good thing about the Web is that it takes all those text-line commands and reduces navigating the Web to the simplicity of pointing and clicking.

The beauty of the World Wide Web is its democratic value. Almost anyone can put up a web page. Musicians from the avant-garde Tribeca variety, to stadium-filling corporate rock machines can have a web site, and each is as easily accessible, more or less, as the other. This concept is revolutionary in the extreme: Traditionally getting your message out meant owning a television network (oh yeah, let's see, I've got a coupl'a million in my wallet for a down payment), a newspaper (what's the cost of paper stock now?), or some other media that's prohibitively expensive for regular folks to afford. But now, with a $2,000 computer (a hefty investment for sure, but not nearly as expensive as purchasing a radio station), you can reach something like 10 million households — at least. You can use graphics, text, even sound. Now that's power. Anyone can create an HTML document; even the latest version of *WordPerfect* can format one.

The Web is obviously a powerful tool. So powerful it's laid low a total of three online services: AT&T

Interchange has closed its doors. A proprietary service pales besides the offerings of the Web, so AT&T will revamp its online offerings to be a Web-based service. Apple's e-World, and even the Microsoft Network, are revamping wholesale to a Web-based model. Even Prodigy, with more than 1 million subscribers, is creating Web content. Expect America Online and CompuServe to follow.

There's a wealth of information on the World Wide Web, but like any medium, there's plenty of dross to sift through for the few gems. There are a few sites that can help you search the web like Yahoo (http://www.yahoo. com) and the Webcrawler (http://web crawler.com) which enable you to type in keywords for a search. It's fun to browse the web in an aimless fashion, starting out at a place like the hip Sonicnet (http//: www.sonicnet.com) and going through the links (hand picked by the off-the-wall staff) to see where they lead.

Here's the rub. The Web has lots of graphics. That means lots of data. Many folks' experience with the Web is from school or the office, where they usually have a high-speed data line for speeds far in excess of 28.8K bits per second. I only had 28.8K bps in my apartment, though, and damn, the Web is slow. So slow as to be barely useful to me. I had the chance to use an ISDN line through Lara Lee's office (the filmmaker who made Synthetic Pleasures, a Web site mentioned last issue). Truly, ISDN, which theoretically reaches a clean 128K bps, makes the Web usable; graphics appear in a blink or two instead of a short nap later, and browsing feels like browsing, not like watching grass grow. I'm about to embark on getting ISDN in my apartment — and you'll hear all about it.

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breaking

Arcadia

All the month's news from the world of coin-ops

Marcus Webb is the editor-in-chief of *RePlay* magazine, the US' leading trade amusement magazine

by **Marcus Webb**

KI2 heads for an arcade near you. But what about the Nintendo 64 version?

Sega's *Cyber Sled* 'copy' *Virtual On* features huge polygonal 'mechs

Sky Target hopes to recreate the success of *Afterburner* and *G-LOC*

Sega Vows to Triple Coin-op Sales by 1999

Sega Corp. President Hayao Nakayama announced on January 16 that Sega plans to triple sales by its coin-op division over the next four years. This would result in sales of $3.5 billion. It also intends to double its consumer division sales to reach the same target, hopefully bringing Sega to worldwide sales in all markets of about $7 billion — roughly the size of the entire U.S. coin-op video market alone.

How does Sega plan to do it? Arcade operations is a big factor. Under its imminent joint venture with MCA/Universal and Dreamworks, Sega plans to use the Steven Spielberg name to set up 100 mini-theme parks across the US and set up amusement centers in countries like Germany ("where the authorities do not understand the nature of amusement locations," said Nakayama). The company believes that building up operations in foreign markets will spur trade growth generally, and pave the way for much-increased Sega coin-op sales. "Coin-op is our core business and as such, our aim is for it to grow strongly," concluded Nakayama. This July, Sega kicks off the growth spurt by opening a new amusement theme park in Tokyo, aiming to establish the concept in Japan.

Williams ties *Killer Instinct 2* with Nintendo

Williams/Bally-Midway previewed *Killer Instinct 2* to US distributors in January, and the game may be in your local arcade right now. Like the original, it's a production of British-based Rare Ltd. and will be distributed by WMS/Nintendo in a dedicated cabinet using a computer hard drive. Last year, the original game's hard drive had some technical problems here and there, but the new version is supposed to be larger and more reliable with improved mounting. The game will feature the same multimove-intensive strategy as before, at least 15 new backgrounds — some which affect gameplay — a slough of new features,

and the return of nine characters from the original, as well as three new ones. The original *KI* was considered by many an oddly balanced fighter, requiring the player to memorize combo moves instead of learning complex strategies. *KI2* promises to broaden the gameplay with new fighting elements. Among the new features are Fake moves, Dash moves (for some of the characters), Ultras, a Super Meter (an addition obviously borrowed from Capcom's *X-Men: Children of the Atom* and *Super Street Fighter Alpha* titles), Run-past moves, and a few more. Rare says "up to one million" combo moves are programmed into the game, but they'll be harder to find.

We asked the visiting distributors, how did the new game look? Their answer: "Awesome." Of the returning characters are Fulgore, Glacius, Jago, Orchid, Sabrewulf, and Spinal. The three new characters include Kim Wu, a female nunchaku-wielding Ninja, Maya, a fierce and massive blond man who fights with hunting knives, and Tusk, an over-muscled long-hair brute, reminiscent of Conan, who wears nothing more than a sheath over his crotch.

Acclaim Plans Four Coin-ops in '96

Acclaim Coin-Op is currently debuting *Batman Forever* and *NBA Jam Extreme*. *Batman Forever* is licensed from Warner Bros. and gameplay sticks closely to the film's storyline, enabling players to take on the roles of Batman and Robin. Six levels are pulled from specific film scenes including a fight against Two Face's helicopter, a subway chase and the party at the Gotham Ritz Hotel.

Acclaim reportedly plans to release two more coin-ops this year. All its games will use RAX audio technology, a system which compresses audio data and stores it digitally in computer chips for 12-track stereo, CD-quality playback.

Namco to Buy Edison Arcade Chain

America's largest arcade chain just got bigger. On January 18, Namco America's bid to purchase the Time Out, Space Port and Exhilirama arcade chain was approved by owner Edison Bros. Stores, which went into Chapter 11 in late 1995. The sale price was just less than $15 million for 79 prime stores; Namco has an option on 23 more arcades with a minimal expenditure. Added to the hundreds of arcades Namco already operates in the USA, this puts them as "number one" in the arcade universe without any close second in sight. The purchase means that in the space of just a few months, the five top U.S. arcade chains have consolidated down to three: Namco, Pocket Change, and Nickels & Dimes.

London trade show highlights new Japanese and US videogames

The annual London trade show saw the debut of many new arcade games. Namco unveiled its four-player tank fighting sim *Tokyo Wars*, while Sega geared up to show a two-player robot fighting game *Virtual On* (**NG 16**); a dedicated air combat game called *Sky Target* (**NG 15**), and a video kit called *Pebble Beach Golf*.

Konami's two-player interactive simulator *Road Rage* was to show in London along with its *Midnight Run* driver. Taito planned to show its dedicated video *Landing Gear* while Capcom's latest included the 3D fighting game *Battle Arena Toshinden 2* and *19XX — The War Against Destiny*.

ng 27

Generator

by **Mark James Ramshaw**

So what do the game industry insiders do when they're not working? This month, a look at *Organic Art* — the next big thing?

Of all the titles mentioned in last month's whistle-stop tour through the impending releases for '96, Time Warner's *Organic Art* is the most striking and individual. It's art-based, but it's a leisure rather than a design package. And while it doubles up as a screen-saver, the blend of gorgeous, animated, polygon-based visuals it presents, and the complex mathematics inside the program's code, go far beyond the ambitions of the your average computer product.

"It brings this kind of image creation down from supercomputer, research level — and puts it onto the PC and into the hands of everybody," explained Mark Atkinson, co-director of *Organic Art*. The other half of the team is William Latham, a man perhaps more famous for his exhibitions of computer artwork in the likes of London's Tate Gallery, and also in the land of club culture — including recent cover art and video collaborations with rave band The Shamen. "Mark is the technical director," explains Latham. "I'm the public face, the car salesman!"

The next step on from fractal-generated images,
Latham's artwork came about as a result of his collaboration with programmer Stephen Todd, under the wing of IBM. In simple terms, the code they developed can mutate forms, producing "children" with variations on the "parent" characteristics. The user can select which offspring will live, and the reproduction continues. It's a concept which has possible applications in areas as diverse as music, architecture, and, of course, art.

What's the big deal for gamers? Well, the pair plan to move into game development soon, putting their artificial life concepts to work to create a new breed of software. For now, however, we have *Organic Art*, which does away with much of the research angle of their original "Mutator" code, instead giving users the power to create Latham-style artwork with a few simple clicks of the mouse. "It does rather give the game away," Latham admits. He's not wrong, either — it's possible for anybody to come up with animated images which match those Latham has already had exhibited in galleries.

Because of the mutating nature of the program, the choices the user makes at the beginning — shapes, textures, behaviors, backgrounds, lighting — are only a starting point. From there the program will create animated images which constantly change and grow, like a 3D collision of genetics and a kaleidoscope. Latham describes it as "like buying an animated poster, but one with near infinite possibilities." It's about exploring the beauty created by the revolutionary and evolutionary mathematics. "*Organic Art* makes your PC look impressive, and it's high-culture for $45," laughs Latham.

It's not a game then, but it's fun. And while it
can have serious uses, it exists presently only to look nice. And though it's simple enough for a child to use, *Organic Art* produces mind-bendingly complex, infinitely changing results. "Each image is unique — something that's never been seen before and will never be seen again," says Latham. In short, it puts true art into the hands of everybody. A good justification for owning a computer if ever there was one.

Mark James Ramshaw is free-lance music and videogame journalist, and a software consultant. He can be e-mailed at markr@hoops.demon.co.uk.

Datebook

March

The 10th annual **Computer Game Developers' Conference** will appear Sunday through Tuesday, March 30 to April 2, at the Westin Hotel, Santa Clara Convention Center, Silicon Valley, CA. New technology, industry big-wigs, tutorials, a very cool job fair (where you can find a job), the Spotlight Pavilion (your basic up-to-date game-packed arcade), a Game Tools Expo (where you can power up with the most recent high-powered game tools), you name it, and it's there. This event is open to the public and three-day passes are available, but one-day passes aren't. For hotels call 1 (800) 944-9090; for registration, call 1 (214) 245-8874.

April

WinHEC'96 (Microsoft Windows Hardware Engineering Conference) will appear on April 1 through 2 at the San Jose Convention Center and will feature discussions on new initiatives and standards for Windows 95, and will give you a look at the latest and hottest Windows 95 software, i.e. game stuff, where to receive practical and accessible design information, and more. There is a two-day conference and an optional third-day seminar. Call 1 (612) 550-6390 for more information. This is not open to the public.

May

The **Electronics Entertainment Expo**, a.k.a. **E³**, is, for all practical purposes, the main game industry event of the year, and will make its appearance at the Los Angeles Convention Center from Thursday through Saturday, May 16 to 18, when all of the biggest game companies will be there (Sega, Nintendo, Sony, Time Warner, Atari, the 3DO company, EA, Matsushita, etc.) showing the newest games, newest systems, connectivity technology arcade games, virtual reality (you name it, kid, they have it). This show is a must. For more information, please call 1 (415) 349-4300 or 1 (800) 315-1133, or e-mail http://www.mha. com/e3/. And for travel arrangements call 1 (800) 361-8191.

Orlando Consumer Electronics Show '96 (CES) will occur from May 23 to 25 at the Orange County Convention Center, Orlando, Fla. This is the big she-bang in terms of electronic gadgets, new systems, stereos, walkie talkies, phones, CD-ROM and DVD developments, games, Internet/online services, and computer hardware, you name it, it's there. The Orlando CES is open to the public. FAX: 1 (703) 907-7690. Call Travel Planners, Inc. at 1 (800) CES-5655 or (212) 532-1660 for travel arrangements, or e-mail housing@aol.com.

June

The first annual **I-Magic Awards Festival** has been moved forward and will be held this June 17 through 20 (not April 17 through 18), at the New York Information Technology Center, New York, NY. This event provides achievement awards for excellence in consumer relevant categories. Contact Bonnie Harper at 1 (212) 431-8923.
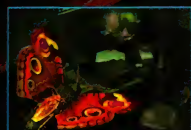
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Back Issues

Back issues of **Next Generation** are rapidly becoming collectors' items. A complete set is also an invaluable reference guide for anyone seriously interested in videogames

NG 1
• An interview with Trip Hawkins (president & CEO of The 3DO Company) • A comprehensive look at all the next-generation systems • The Violence Tapes. Four of the world's most controversial game developers in one virtual room

NG 2
• Shigeru Miyamoto (creator of *Mario, Donkey Kong, Zelda, Pilot Wings*) • Saturn: The complete story so far
• Gaming on the information superhighway (aka "Joyriding") • Revival of the Fittest. Why is retrogaming so popular?

NG 3
• Tom Kalinske (Sega US' president) • Does PlayStation live up to the hype? • What's wrong with the PC? (Part one). Can PC gaming survive? • Making tracks (aka the noble art of game music) • *Virtua Fighter*: Saturn's fighting chance profiled

NG 4
• Nolan Bushnell (the inventor of *Pong*, and founder of Atari) • Atari: from boom to bust, and back again. The complete history of the oldest videogame company in the world • An audience with Gumpei Yokoi, the inventor of Nintendo's Virtual Boy and GameBoy • What's wrong with the PC? (Part two). Where is the PC game scene heading?

NG 5
• Steve Race (Sony Computer Entertainment's former president) • Ultra 64: the story so far. Nintendo's 64-bit collaboration with Silicon Graphics is shrouded in secrecy. A 13-page exposé • Apple: The Ripe Stuff. The story behind Apple's new game machine, the Pippin

NG 6
• Peter Molyneux (Bullfrog's leader and possibly the smartest guy in gaming) • M2: 3DO bites back. On paper, Trip Hawkins' M2 is "10 times more powerful than the PlayStation." But can 3DO make it work? • PlayStation's Disciples: A look at how PS-X games are made

NG 7
• Sam Tramiel: Atari talks back (Atari's president & CEO) • 3DO: Past, Present, and Future. What has 3DO achieved so far, and what does the future hold for Trip Hawkins' vision? • Electronic Entertainment Exposition (E³) — the definitive show report
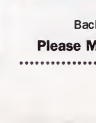
NG 8
• Howard Lincoln: Why the hell has Nintendo delayed Ultra 64? • Sega Saturn: What the TV commercials don't tell you...NG special Japanese RPGs: coming to a game machine near you • Previews of PlayStation's two-player link-up
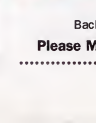
NG 9
• So which 32-bit system is Electronic Arts betting on? An interview with EA's VP Bing Gordon • Reality Check: The Future of Virtual Reality — a full history, update, and thorough analysis of the state of VR • Saturn: Sega's battle plan to attract developers
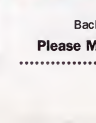
NG 10
• is this the end of FMV as we know it? An interview with Tom Zito, president, Digital Pictures • Do videogames screw you up? An in-depth look at the issues and solutions surrounding the strains of videogaming • Motion Capture: a report on the newest wave of technology
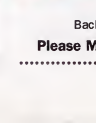
NG 11
• Yu Suzuki, head of Sega's AM2 arcade division explains how he makes the best arcade games in the world • The Top 75 movers 'n' shakers in the gaming industry: who *really* wields the power? • Mind Games: the rise and rise of artificial intelligence in computer games
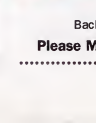
NG 12
• Chris Crawford — videogaming's self-proclaimed "Prophet in the Desert" explains the way games ought to be • Head to head: each and every games machine rated and compared. The most exhaustive, comprehensive and controversial feature in **Next Generation**'s history
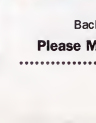
NG 13
• Sega of America's President Tom Kalinske explains why Saturn can still win the war • 1995: the year videogames changed forever •1996: the year in profile. What are the major players predicted to do?
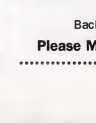
NG 14
• Silicon Graphics' George Zachary explains what's under Ultra 64's hood • Ultra 64: the whole story, complete with interviews with Shigeru Miyamoto and Howard Lincoln • Marketing: how Sega and Sony try to get into your brain
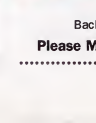
NG 15
• Sony Computer Entertainment's President (well, he was) Marty Homlish answers the charge that PlayStation cannot compete with Ultra 64 • The **Next Generation** Lexicon: a complete dictionary of gaming terms, from A to Z

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THE FAR SIDE By GARY LARSON

Hopeful parents

How to get a **job** in the **game** industry

Videogame development is one of the fastest growing areas in high-technology. It's creative. It's intellectually challenging. It's fun. It's outlandishly lucrative. And it can be incredibly hard to break into. So what's the best way to start climbing the ladder on your way to becoming the next Molyneux? Read on...

In the old days — we're talking 15 years ago — it was easy. You thought up a game, typed it in to your Apple II, duplicated a few disks, dropped them in a zip-loc bag with some Xeroxed instructions and waited for the cash to roll in: That was the model for success in the game industry in the beginning. Companies like Activision, Infocom, Sierra On-Line, and Broderbund all started this way, quickly growing to multimillion dollar businesses based on games which were largely the creation of one person.

Then along came Trip Hawkins and Electronic Arts. As the former product manager for Apple's failed LISA project, Hawkins envisioned a new paradigm for software development that would bring together teams of artists, each focusing on their particular specialty (design, art, programming), leaving the marketing and sales to others.

Although it was, and still is, possible for one person (or a very small team) to create the next big thing "in the garage" (Jeff Minter's *Tempest 2000*, Geoff Crammond's *Grand Prix 2*, or — stretching it a little — Id Software's *Doom*), by the time EA arrived on the scene in 1982, the writing was already on the wall for the one-man operation. Games were getting increasingly complex, and the sheer volume of money at stake prohibited one person from handling all the functions of creating one. The maturation of the industry during the past 10 or so years has only entrenched this reality, especially when

development budgets often run into millions, and games have become so complicated that were one person to try and finish a title solo, it inevitably would be out of date before it ever hit the shelves.

Specialization, the division of tasks, and a corporate ladder to climb before you nab that dream gig is the name of the game now, like it or not. Given that (somewhat depressing) reality, the videogame industry is still a great one to work in (and if you have to ask why, you should really stop reading this article right now). If the idea of actually creating games, working with

This is one of the last industries where enthusiasm, a sound attitude, and a great portfolio can speak louder than a degree

new technologies, pushing the envelope — whether in game design, art, or programming — and working harder than you ever thought possible doesn't have an innate, almost inexpressable appeal, you'll find that working in videogames is about as exciting as resurfacing tennis courts.

There are two big secrets for getting a job in the game industry: The first is the secret that explains why Trip Hawkins will never have to shop a resumé. Here it is: *It's all about who you know.* The person with a friend already in the business will know about (and apply for) the new artist

opening long before it appears in the paper. And, if an employee can tell a supervisor "I know someone perfect for the job," it may never even get there.

The second big secret is best articulated by the writer Elbert Hubbard: "Do your work with your whole heart and you will succeed — there is so little competition." Without a devastating amount of drive and dedication, there's no place for you. If you're setting out to work in videogames, you better be sure you want to do it because it really isn't easy. There are probably as many unfinished projects and people "with a great idea for a game" on the fringe of the game business as there are wanna-bes with unfinished screenplays flouting around Hollywood.

OK, now that the deadwood has been frightened off, we're going to actually try and offer some constructive help. The above "secrets" certainly hold true, but they don't mean that breaking into the industry is impossible.

Luckily, the videogame industry is not as crippled by the vicious circle as the film industry (where to get a job you need an Actors' Equity card, which you can't get, of course, without already having had a job). First, this industry is expanding. The current talent pool isn't large enough to provide for all the projects under development. Second, it's still possible to get "discovered" by, say, working on a shareware game, or designing some cool characters. And third, there's the entry level job — working your way up from the videogame equivalent of the postal room.

Getting that first job is the tough part. Once there, you gain experience, make contacts, and learn what it's all about. From there, whether your next job is the result of a promotion, an inside tip, or a cold call, you'll have a body of work or experience that will increase your value to a potential employer immensely.

So what do you need for that

first job? Most important is an extensive amount of experience with games. We're not just talking about having played *Mario* through a couple of times, we're talking about having been playing games since you were eight or younger. More than that, having a good working knowledge of the industry itself — how Acclaim is doing, what EA acquiring Bullfrog could mean — also gives you a good foundation to work from, and will impress at an interview. Sure, keeping an eye on the bigger picture may not help when you're trying to find bugs in a game as a tester, but it also has the added bonus of at least giving you a good idea of who's hiring, and who's sending out pink slips instead of paychecks.

Dave Perry, founder of Shiny Entertainment (who got into the industry by writing books of program listings, before the prepackaged software days) has some very simple advice for would-be game creators: Create. "You're going to have to find some money someplace," says Perry. "Then go buy a cheap PC. In the PC world, you can do art with a cheap package like *Deluxe Paint* or *Deluxe Animator*. It's only 70 or 80 bucks. And then that's that. You're able to draw art."

And for the less artistically inclined? "If you're a programmer, you can program on it. You can get languages for free, off the Internet. There's an assembler called A86. Download it. If you look harder you can find C compilers for free. Sure, it's not as good as a commercial one, but it's a lot better than anything I ever started with."

And how to learn? "Just buy a book on writing videogames. Those books are absolutely incredible resources that will teach you concepts you don't realize you need to know. Stuff like collision detection. Stuff that us old fogies had to figure out how to do from scratch, you now can just get the code off the shelf!"

Perry continues: "Buy a cheap PC, get everything else free off the Internet, and then get together. Find a friend who can draw and then try to do the thing. The reality is the first game you do is going to

suck, but that's OK. All we — as people already in the industry, looking to hire fresh talent — need to see is that there's a spark of skill buried in there."

Figuring out exactly what you

want to do is key. The industry is extremely segmented, and studying programming won't be too helpful if your real talents lie in art. If you love games, but have no desire to make them, maybe PR or marketing would be more your style — and you can learn these trades almost anywhere. Lateral moves such as these (tweaking the skills learned in one industry to fit a job in another) are a great way for people moving into the industry at any level (two marketing VPs at Sega came fresh from Hilton Hotels). Perry sees the segmentation helping people entering the industry. "It makes it easier. You should get very focused. A programmer programs. In

There are as many people "with a great idea for a game" as there are wanna-bes with unfinished screenplays floating around Hollywood

the old days I used to do my own music and art." Now it would seem that you only have to master the one particular skill.

Many people consider designing games their dream job. The bad news is that it is almost impossible to land a designing job as your first position. The good news is that it can, eventually, be reached via almost any path. Getting your name in the credits of a design document is something within anyone's reach (a cynic offers proof: simply look at the number of wretchedly designed games out there).

Of course, in addition to all the

qualifications specific to the game industry, you need to have all the needed organizational and "professional" skills. There are hundreds of books on getting a job that go into far more detail (and we suggest you get one), but here's a quick rundown of the basics:

• Make sure your resume is neat, compact, with no misspellings, and skillfully customized for each specific position for which you apply.

• Try and offer something fresh and new at each stage of the application process. Don't cloud your skills and qualifications, but go the extra yard — quality paper, some interesting illustrations, whatever — and you'll be amazed how often your application will be picked out from the bagful of 300 identical resumes for special notice.

• Dress up for your job interviews. Sure you may be wearing shorts and T-shirts for the next 20 years, but if nothing else, wearing a tie at your interview says that you respect the interviewer and are willing to go through the trouble of putting on the irritating cultural trappings to acquire the job.

• Even if you have them, don't send games you may have written along with a resumé — they'll get thrown away unlooked at (to prevent liability on the company's part if it later releases a similar game). Make sure you note, however, that game, art, or music samples are available on request. If they want them, they'll ask.

• Most importantly, read up on the company you are interviewing with, play its games, and find out everything you can about it! There's no faster way to look like a moron than to be stumped by a simple question like "What do you think of our games?" in an interview.

• Follow up every letter with a phone call, every meeting with a letter. Be persistent, but don't be a pest. You'll have to use your judgment in discerning the difference. It can help to have an inside connection other than the human resource (HR) department, but flaunting it too much can miff the HR people and kill your chances as quickly as aiding them.

• Education, or lack thereof, can be a problem, but this is one of the last industries where enthusiasm, a sound attitude, and a great portfolio can speak louder than a degree. Be prepared, however, you may need one or the other. If you don't have a degree, your portfolio needs to be killer enough to convince the person who's doing the hiring that you don't need one.

• What's better, if you can afford it, is to have a great portfolio and a degree. Schools give you access to better computers than you can afford (especially for artists) and more importantly, career placement offices, which aid greatly.
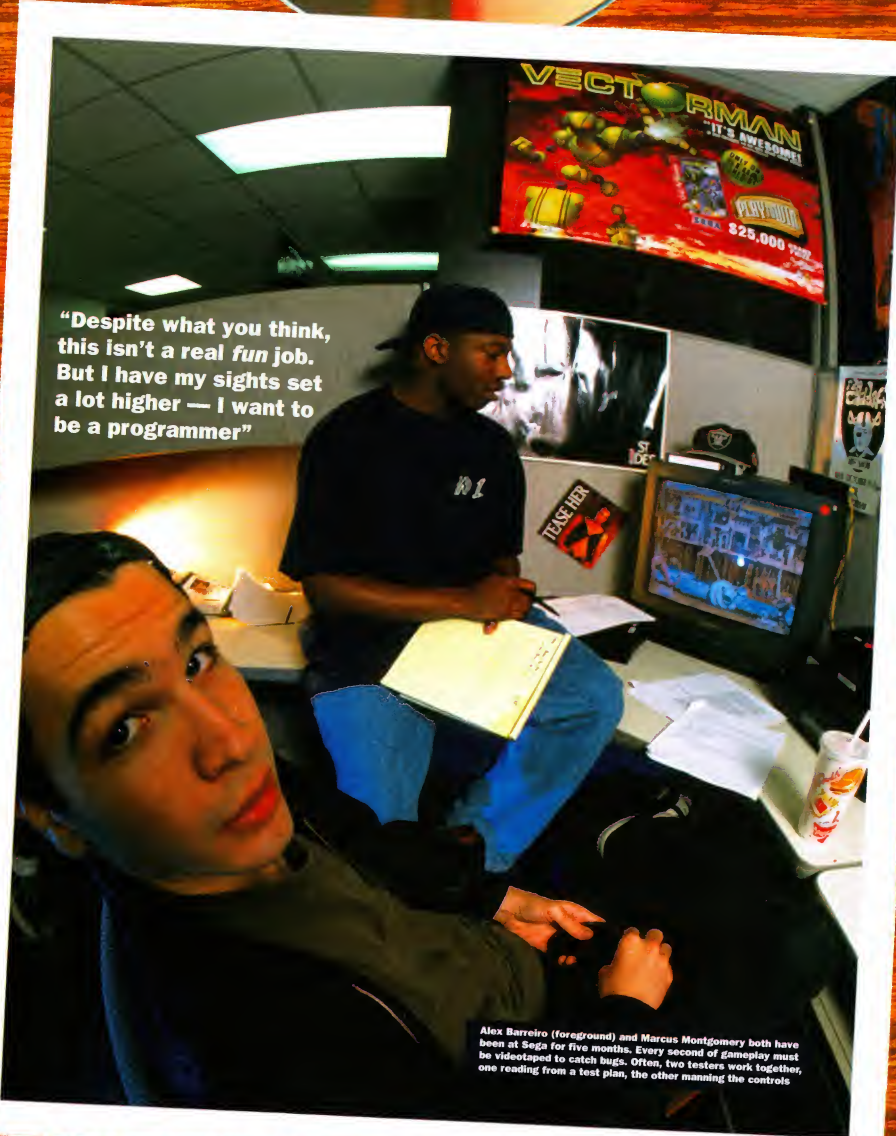
• Be extremely flexible. You may have a better shot at getting into a smaller company than a larger one. If it's your first

job in the industry, don't be too picky.

• Dave Perry's final advice? "Try and learn the ropes, piece by piece. Don't just suddenly go in thinking you're a big gun. There's so much to learn I would say it takes something like 10 or 20 years before you really know what's going on."

The bottom line, as Perry sees it, is dedication and commitment. "When you get into this industry, the people you compete against are people who are willing to sleep on the floor in the office for weeks to get the job done. So, if you're stepping into that arena, you've got to be determined to get in there and fight. It's by no means a 9-to-5 job or an easy job, but it's really rewarding."

Over the next eight pages profiles that include salary ranges, job responsibilities, and relevant qualifications of four entry level jobs in the game industry are listed. Each position is easily obtainable by someone with the prerequisites, and gunning for one of these jobs is probably the best bet for a newcomer aiming to break into the business. Afterward, we provide a complete list of schools and colleges, followed by all the contacts you'll ever need to bombard with resumés... **ng**

Win a chance for a job

It's all about who you know." At the very least, having an inside contact can only help. So **Next Generation** is volunteering to use its contacts within the game industry to secure a selection of would-be game testers (depending upon the number of suitable candidates) serious job interviews with leading game developers in the US.

We can't guarantee a job, but we can guarantee that one — or more — **Next Generation** reader will receive a serious job interview, with a view to securing a full-time position. Videogame testing isn't easy or necessarily fun all off of the time (try playing your least favorite game 10 hours a day for a month), but it is a great way to get into the industry.

To enter, please send a complete one-page resumé, a one-page cover letter, and a one-page explanation of why you should get the job:

Send Entries To:

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Imagine Publishing,
Suite 40
150 North Hill Drive
Brisbane, CA 94005

Fax   415-468-4686
e-mail   ngonline@imagine-inc.com

Note: 1) This contest is closed to anyone who has been involved in a commercially published game or other software product, employees of Imagine Publishing, and their families.
2) One entry per person only.
3) Void where prohibited.
4) The editor's decision is final. There will be no correspondence at all.
5) If, in five years time, you find yourself giving the keynote speech at E³, having worked your way up the ranks — remember us

Win a Genesis Development Kit

So you want to be a game programmer? Then put your money where you mouth is and start coding your own games. In this exclusive competition, **Next Generation** is giving away the ultimate prize for budding game developers, a Sega Genesis development kit.

Shiny Entertainment has donated one of the Sega Genesis development systems used in the creation of the original *Earthworm Jim*. This $3,000 piece of hardware will let you create Genesis software on a PC. You'll still need various pieces of information from Sega (we're working on assembling all of this right now) and a PC, of course, but this will get you started. Be warned, however, that it's a long way between sticking this card in your PC and sticking the finished cart in your Genesis.

Because of the technical nature of this prize, we'll need to see proof that whoever wins it will put it to good use. And by the very nature of this competition, there's no point giving it to someone who'll never use it. To enter: Simply send a one-page synopsis of why you should win, a brief outline of what you intend doing with the prize if you win it, and a brief outline of what you would change about **Next Generation** if you were in charge (this is just our way of getting a free bit of market research done).

We'll determine who gets the system and print their name in a future issue. We encourage anyone with an interest in programming to submit an entry; there is a possibility that we will obtain additional development systems to give away, so you've actually got a fairly good shot at getting one. All entries must be received by May 1, 1996, so don't delay.

Send Entries To:

Next Generation Magazine
Attn: Genesis Development System Give Away
Imagine Publishing, Inc.
Suite 40
150 North Hill Drive
Brisbane, CA 94005

Fax   415-468-4686
e-mail   ngonline@imagine-inc.com

Note: 1) This contest is closed to anyone who has been involved in a commercially published game or other software product, employees of Imagine Publishing, or Shiny Entertainment and their families (Sorry, Nan).
2) One entry per person only.
3) Void where prohibited.
4) The editor's decision is final. There will be no correspondence.

"Despite what you think, this isn't a real *fun* job. But I have my sights set a lot higher — I want to be a programmer"

Alex Barreiro (foreground) and Marcus Montgomery both have been at Sega for five months. Every second of gameplay must be videotaped to catch bugs. Often, two testers work together, one reading from a test plan, the other manning the controls

Game Tester

Responsibilities:

Extensively playing pre-release software to discover bugs (errors), gameplay anomalies, and verifying manuals and hint books, following a test plan, and writing up detailed, concise reports of bugs.

Uppers: Well, you get to play all the new games, but that's usually only fun for most people the first couple of days, especially considering you'll generally start testing when the game is far from completion (i.e. before it's actually fun). "Chasing down the bugs is a lot more fun than actually playing the game, usually," says Marc Weaver, a lead tester at Turning Point Software. "It's fun trying to find the most esoteric bugs you can." Testing is also one of the best ways to learn basically everything that is going on at a company, where it is understaffed, where the company is going (based on the quality of the games you see, at least), etc.

Downers: "A lot of people think being a game tester would be great fun," says Dermot Lyons, director of "test" at Sega. "But it can be really be extremely tedious. You can sometimes be on a game 8 hours a day for two or three months." Also, testing, or quality assurance, while essential to the release of a product, is the least respected aspect of product development. It's an almost entirely thankless task: if you do your job poorly, bugs ship in the product. If you do it well, you hold up release schedules because they need more time to fix all the bugs. Don't expect a lot of pats on the back from programmers or anyone else when you test.

Salary Range:

Salaries start at around $8 to $9 an hour.

Suitable Qualifications:

"When hiring, we look for two things," says Lyons. "The first is a good gameplayer, because we need people who can play a game and get through it in a short amount of time. The other thing we look for is good English skills. We do a lot of bug writing, and you have to be able make your point, clearly, so that someone else can understand it, even when you're not sitting there in the room to explain what the problem is."

Suitable Experience:

As long as you've got the qualifications, the experience doesn't matter all that much. Sega, for instance, hires kids as young as 16, although it prefers recent college graduates, 22 to 26, or so. It even has some testers pushing 50. Be able to prove you can play games and write, and you shouldn't have too much trouble.

Possible Career Progression:

Testing is basically considered the back door way into the development side of the industry. "For the most part, if you look at the assistant producers [APs] here at Sega, the great majority of them came from test," says Lyons. "In test, you've got a lot of options open to you. It's not easy — in fact it's very competitive. But if you excel, you can get a job in marketing, in the tech area, or as an AP." In general, the route is to go from basic tester to assistant lead tester, to lead tester (at which point you will be working directly with the programmers and product manager, writing reports on the game's progress). From there, you could either stay in testing as a supervisor, or make a jump to another area of the company. It's important to note, though, that the industry needs a lot more testers than assistant producers, so if you aren't sharp, you can easily find yourself "stuck" in test for an extremely long time — we're talking years — before anything else opens up. Unless you want to make quality assurance your speciality, you'll find that if you stay a tester too long, you become somewhat "typecast" and it becomes hard to break out of it. Not as hard as that other "entry level" job, customer service (which can be such a dead end that it isn't profiled here), but still tough.

Inside Information:

Although outsiders often find it hard to break into quality assurance (because the testers know about jobs early and tend to "get" them for their friends) the reality is that a major software house is going to be hiring testers on a fairly regular basis. Most companies have job hotlines as well, so don't wait for want ads to appear. Call the human resources department at the software developers in your area (this is where it pays to live just south of San Francisco, by the way) regularly, and you've got a good chance that something will turn up. The other great thing about testing is that it's often possible to do it part time: after school, or at weekends...

"You constantly have your finger on the pulse of every aspect of the business — from sales to licensing to product development — that's the best thing about being in public relations"

Dan Stevens in his cubicle at Sega. Around him are the tools of his trade: an appointment book, Fed-Ex envelopes, books on writing, press clippings, piles of gameplay videos, and the industry prerequisite — a Nerf gun for inter-office battles

Public Relations

Key Responsibilities:

Generating publicity for new products, writing press releases, dealing with the press on a daily basis, providing screen-shots, demo software, setting up and running trade show booths, press events, publicity stunts, etc.

Uppers: "I like it because people think it's very glamorous, you're on the front lines. It seems like there's always a TV crew around, you're traveling. If you like a fast-paced environment, with lots or pressure and stress then you'll really like this job," says Terry Tang, PR manager at Sega. Kevin Horn, PR manager at Sony Computer Entertainment, offers this example: "I went to a party and we started playing games, my girlfriend was like 'you take your work home with you.' She's an accountant, and you don't go to a party with a calculator. It's a fun, enthusiastic, high-energy and creative industry where we get to see cutting-edge technology and we're really pushing the envelope."

Downers: "All the tight deadlines," says Tang. "A press person will call you at the very last minute, and need 10 screens, a beta rev, and a story, and his deadline is in five hours and we have to really scramble over here. And it's not just one person at a time. You may be doing the same thing for three people at once." Adds Horn, "Beyond all of that, you have to find time to play games! That's the hardest part of the job."

Salary Range:

Public relations pays $18,000 to $25,000 to start

Suitable Qualifications:

A degree in communications, English, Public relations or a related field (like journalism) is essential. In other words, "Anything that facilitates the communicative process," says Horn. "You'll be dealing with people on a one-on-one basis, so if you're not a 'people person,' you won't go far in the world of PR. More than just being able to write good press releases, though, you need to communicate to everyone what you're doing — concepts, writing letters, proposals, you need to be persuasive and enthusiastic in your writing without it becoming a sales thing. you have to be able to get along with others in a stressful environment and you need to have good contacts. You have to know who the players are. You really have to know the industry and gaming history because the industry is so dynamic."

Suitable Experience:

"Take a lot of writing courses," says Tang, "then pick up the industry magazines, get a grasp of the background of the industry." Most important, she adds, is to "be confident in making cold calls when you first start out. It's always hard when you first start out. You're going to be very nervous because you'll be making a lot of cold calls to the editors, and you have to be confident that you can deliver your pitch in a way that will excite them."

Possible Career Progression:

From PR grunt-work, like sending out faxes and mass mailings, cold calling strangers, being a gofer at events, etc., you can move up to actually writing the press releases, organizing events, building a close relationship with editors (who you may also see socially), and managing other public relation reps.

Inside Information:

"One of the best things," says Tang, "is that once you build a relationship, you can kind of hang loose. You don't have to keep up a PR front all the time. After a Sega Gamers' Day, a group of press people and I hung out in a hotel lobby bar drinking and shooting the breeze. And that's where you find out who the most interesting press people are…"

"For some projects I 'draw' directly on the computer, but generally it's still easier and faster to scan and then touch up a rough, pencil sketch"

Ernie Chan drew *Conan* for Marvel Comics for 20 years before he joined Sega. That experience proved invaluable when creating character design and art for *Eternal Champions*

Artist

Responsibilities:

Building 3D environments, models, and props. Designing texture-maps, creating 2D backgrounds and sprites. Creating storyboards, character sketches, and designs. Design of interface elements. 3D and 2D animation.

Uppers: "I get to work on the sweetest equipment possible," says Alex Tschetter, 3D computer artist at CyberFlix. His enthusiasm is typical. Computer art in general is a very young medium, and there is plenty of room for experimentation and trying new things. Want to create the look of the next *Mario*? Go ahead.

Downers: Long, long hours. "It's impossible to get it done in an eight-hour day," says Tschetter. "Or, you can spend hours working on a lush piece of art and then when it gets dithered down to 8-bit, it just loses something."

Salary Range:

$25,000 to $35,000 to start (plus royalties)

Suitable Qualifications:

Obviously, you need talent at art — a lot of it, not to mention a good imagination. Just being able to draw space ships isn't going to cut it. An art degree is also a big plus. "You could get a job doing graphics in general without a degree," says Tschetter, "but people look to see if you've got the gumption to stay in school and learn a trade. Ultimately though, what they're looking for is to see what you've got on your demo reel. Lots of people will noodle around on a home system, but the actual quality of the package you can put together is always better if you've been to a school that really specializes. If you do it at home, the colors are always bad and the animation speed is always wrong. If you're looking for the best reel, you want a school with great equipment. Don't go to a school with PCs or just two SGIs for, say, 50 students."

Suitable Experience:

To start out, you might not need much work experience, but you will need a strong portfolio, the more diverse the better. If you're specializing in 3D modeling and animation, you'll need to have a VHS demo tape available. 3D is no fad, so if you aren't up to speed on one of the predominant SGI 3D packages, it's time to take some refresher courses. Even if you don't have access to an SGI workstation, start working on 3D modeling and animation on your home or work PC, now.

Possible Career Progression:

If you start at a large department, where your job consists of cleaning up other people's art, or similar grunge work, you can hope to move up to leading an art team. Eventually, you'll want to be the art director on an entire project, supervising your own team of artists and designers. If you start at a smaller company, you'll probably have a lot of freedom to exercise your vision from the start, but there will be fewer opportunities for advancement without switching companies. Eventually, you could end up as the head artistic person at an entire company.

Inside Information:

"If the first thing you want to do is work at Industrial Light and Magic, prepare to be 'animator 247,' as opposed to who you are," says Tschetter. "If you're content to work in a big place and take orders all day, that's cool, but if you want control, go to a small company. You'll make less, but there's a hell of a lot more freedom." 3D art and animation is an extremely young field, so there's plenty of room for innovators. "There's no textbook you can look at to see how to be a successful computer animator," concludes Tschetter. "Just make sure you have the keys to building so you can stay there at night."

Masanobu Yamamoto (foreground) and Hiroshi Ando are part of an exclusive Sega of Japan "away team" of programmers working on new Titan-based coin-ops at the Sega Technical Institute HQ in California. The games will follow for Saturn

"Anyone can teach themselves to program. But to reach the top you need to be really, really dedicated — and prepared to sleep at the office"

Programmer

Responsibilities:

At entry level, programming duties will entail lots of scripting, working from a design document, and assembling the actual game (high-level people do the engine creation) **Uppers**: "You know other people will see it," says Laird Malamed, technical director for *Zork Nemesis* at Activision. "It's very tangible. You can hold the finished disc in your hand and say 'I did that.' You're not working on a graphical interface for a scanner that 15 people will buy." Not to mention that good programmers are considered prize employees for their companies.
Downers: Dealing with the limitations of the hardware. "You can beat yourself senseless trying to make something work" says Malamed. Games are a collaborative effort, so you can't always solve technical problems your way. And of course, the long hours.

Salary Range:

$30,000 to $50,000 to start (plus royalties)

Suitable Qualifications:

You have to know computer languages, particularly C and C++ very well. Knowing assembly is also a huge plus. "We see a huge number or resumes," says Malamed. "A degree stands out, but equally important for a programmer is the personality — will I want to be here at 2 in the morning with them? We look for people who have worked in computer science, but their previous work doesn't have to be in games. The lead programmer on *Mech Warrior II* worked at TRW."

Suitable Experience:

Particularly if you don't have a degree in computer science, you will need some strong evidence that you can code as well, or better, than someone who has a degree. "Most of the people we hire have a degree, but that's because most of the people who apply have a degree. Most people who are interested in programming before college major in it," says Malamed. More than that, though, "We look for initiative — people who, even at school, were working, doing projects. Someone well rounded. People who have ideas and are thinking for themselves really grab my attention. You have to be self-motivated. Every piece of code you do affects what other people are doing." Diligence to a design document is also essential. Even if you come up with a way of displaying graphics routines better, if no one else uses it, the end result can be inconsistent, and your efforts are basically a waste..

Possible Career Progression:

From doing scut-work you can eventually move up to the exciting stuff — low level (assembly) programming of game engines, and routines where speed is essential. This is where true programming skill can shine through; the ability to code elegantly and concisely, to produce the most results with the fewest amount of code, to make the hardware perform tricks it was never intended to. From there, you can work on the technical design document (planning what the scut workers do) and from there, you could move more into design, stay coding, or (gasp) end up in management.

Inside Information:

Get ready for long hours, especially around "crunch time," the time just before the product is supposed to ship, when, invariably, bizarre new bugs crop up, higher-ups suddenly decide to add features, and there is always one more thing to do (and of course, compile times are at their longest). Except in retrospect (when it seems pretty romantic), crunch time sucks. Although, as Malamed notes "It's a very high-energy situation. Few other professions have that group energy. I don't see lawyers or accountants sitting around at 4 in the morning going 'Yeah! We made a great spread sheet!'"

Café de Frenchy

Learning the Ropes

Nothing beats proper training, and staying in education has to be the best bet for would-be game creators. Here's a rundown of what's available

It's slowly becoming possible for eager artists, designers, programmers and others to find schools that offer curricula and programs geared toward the specialized needs of game programming and design.

In North America there are two institutions that have built programs specifically around a degree in game design. The most well known is DigiPen (**NG 6**), located in Vancouver, B.C. With sponsorship from Nintendo of America and Wavefront Technologies, who provide both financial and technical support, DigiPen's intensive two-year program covers the entire spectrum of "The Art and Science of 2D and 3D Videogame Programming." The first year emphasizes mathematics, high-level computer programming (including C++ and game-specific algorithms and graphics applications), game concepts and storyboarding, and introductory low-level programming. The second year continues with more advanced low-level programming, using Super NES development kits donated by Nintendo, and ends with teams of students designing and implementing their own game designs (there are plans to shift the course emphasis to next-generation systems at some point in the future, but Nintendo and DigiPen have yet to set a timetable). Tuition is $9,500 Canadian dollars per year (about $6,100 US), however, the school only accepts 60 students annually, and has a waiting list through the year 2000.

In 1995, the slightly less well-known New Brunswick Community College in Miramichi, Canada, began offering an 80-week program in Electronic Game Design. The theory at N.B.C.C. differs slightly from that of DigiPen, and places some focus on management and marketing skills as well as technical courses. Therefore, in addition to C and C++ programming, computer graphics, digital audio, and game design, the program also includes course work in project management, software packaging, and laser disk production. The good news is that tuition is ludicrously cheap: $800 Canadian (about $550 US) a year.

In addition to those schools offering programs specific to game design, many art schools around the country have begun offering programs in 2D and 3D computer graphics, and other programs that can be generally lumped under the heading of "multimedia production," which can be invaluable to those looking for a career in game graphics, or, in some cases, can add useful artistic credentials to someone who already has experience in general computer programming. Course work varies from school to school, but good ones offer classes not only in 2D and 3D graphic design and animation, but also extend that to areas such as digital video, digital audio, MIDI sequencing, and project design.

A general rule of thumb when searching for a good program is to find out first what kind of hardware and software is being used to teach the courses — they should at least be able to provide high-end PCs or Macs, or better yet, Silicon Graphics workstations — and then determine what the workstation-to-student ratio is. If you can't use your own machine, you're not going to get the most out of the program.

Also, be sure to check the kind of companies the school's graduates have gone on to be employed by — if they seem to favor advertising or commercial design, the emphasis of the program may not be what you're looking for (although, keep in mind, a school can only teach you skills, what you do with them is entirely up to you).

It's clear that the game industry can take its pick of those looking to work in game design. There are a large number of people who want jobs, and only so many to go around. A distinguished education with the right institution can make a difference — but no school can teach you to have an imagination.

DigiPen in Vancouver offers a two-year course in game development skills

Advice From the Experts

Professional recruiters are hired to find employees for game companies looking to expand. Who better to tell you what it takes to get noticed?

When a company needs new personnel *yesterday*, it hires a recruitment company. Recruiters do a lot of the time-consuming work for companies by prescreening candidates and matching their qualifications to the company's needs. This way, the company need only interview candidates who can at least hit the ground running.

The game industry is like any other, and there are a few recruitment firms that specialize in handling the needs of game companies. So what is the experts' advise?

The best way to get a job in the game industry is already to have had one, but in an odd way this has recently worked in favor of those with little or no game experience. "Game companies are realizing, 'How long can we keep feeding on ourselves?'" says Patrick Newburn of the Brelon-Page Agency. "What's happening is that [as companies steal the best people from each other] the salaries for game programmers are skyrocketing almost beyond belief. We're beginning to see things loosening up. We used to see employers saying 'No, you've got to have it [game design experience],' and a lot of them are still that way, but now we're beginning to see them say, 'Well, if they've done [any sort of] 3D graphics, or if they've done any kind of realtime, low-level programming, we'll go ahead and take a look at their resume.'"

So, while companies still would prefer to hire people with game designs under their belt, in the last year they've become more willing to pick up someone with less, simply because they can pay them less.

Which doesn't mean they'll hire anyone off the street. Programmers still have to know how to program, and graphic artists still have to know which end of a pencil makes the marks. On the technical side, recruiters look for candidates with a strong background in low-level, 80x86 Assembly language, and C++ (1996's high-level language of choice). Those looking for a career in game graphics need strong

artistic abilities, and at least some familiarity with the major computer graphics and animation software packages, especially in the field of 3D design.

The needs of the game industry are different, however, from those of business software or advertising companies. According to Jill Zinner of Premier Search, "If you're a 3D artist, you don't want to send them a demo full of flying logos. Flying logos are death, they don't want to see flying spaceships or rotating worlds either. They want to see organic forms, something creative; humans, animals, fantasy creatures..." This is the key. Beyond any technical qualifications, game companies need imaginative, creative, and dedicated people who, above all, love games.

Patrick Newburn puts it this way,

Beyond any technical qualifications, game companies need imaginative, creative, and dedicated people who — above all — love games

"When we started working in the game area, we were telling the people we represented, 'Now, I want you to dress appropriately for the interview,' and we'd make them dress up and send them out to the game company, and then we'd get a call back from the producer and they'd say 'Well, we liked him and all but he's just not our cup of tea.' And I'd go 'What do you mean? He's got all these great qualifications' and on and on. And [the producer] would say 'Well, he's just too conservative for us.' The fact is that once they know you can do the job, they're mostly interested in what's in a candidate's head, what's his creative slant, and they must have something that shows creativity."

Procedures are changing (we would certainly recommend wearing a suit), but the underlying principal behind Newburn's example holds true: It's your artistic flair

and dedication that matters in the end.

For a programmer, this means making games on your own. Design and release shareware games, or at least let your interviewer know you've got a playable demo (one important note: do *not* send a demo with your resume on speck. Because many companies fear being sued over who had an idea first, all unsolicited game ideas get a one-way trip to the trash bin. Include a line that says "Sample games available upon request" with your resume, then wait for them to ask). For an artist, it means having a portfolio that includes highly detailed work, whatever the medium, that shows imagination and an ability to conceptualize even the most bizarre ideas.

Here are some recruitment agencies specializing in the game industry to contact once you have your portfolio completed:

Contact:

Jeffrey Allen Associates
6060 Cornerstone Court West, Suite 316
San Diego, CA 92121
jaamedia@aol.com

Patrick Newburn
Brelon-Page Agency
21031 Ventura Blvd., Suite 519
Woodland Hills, CA 91364

Diane Bell
Pearson and Associates
11811 North Tatum Blvd., Suite P-129
Pheonix, AZ 85028
pearson@syspac.com
attn. Diane

Max Shumow / Jill Zinner / Pamela Thompson
Premier Search, Inc.
2860 E. Flamingo Rd., Suite F
Las Vegas, NV 89121

Ann Peckenpaugh
Schwieckler Associates, Inc.
200 Tamal Vista, Bldg. 200, Suite 100
Corte Madera, CA 94925
annpeck@aol.com

Michael Katz & Associates
One Rafael Ave.
Tiburon, CA 94920

Bernie Scharf
Search Associates
14640 Victory Blvd., Suite 100
Van Nuys, CA 91411-1623
sw@cup.portal.com

Marc Mencher
Virtual Search
2261 Market St. #141
San Francisco, CA 94114
marc@vsearch.com

Company Contacts

One of the biggest complaints we hear from job seekers is that they have a hard time finding contacts at companies. Calling a phone number found on packaging or in ads often leads to a dead end — and often smaller companies aren't in the phone book. So here, for your perusal, is one of the most comprehensive recruitment contact lists in the industry, color-coded geographically. Write away, but call at your peril. These are very busy people, and annoying the person who stand between you and a job is a very bad idea.

Paul Provenzano
20th Century Fox Home Entertainment
2121 Avenue Of The Stars, #25th Floor
Los Angeles, CA 90067

Edie Harris
3Dfx Interactive
415 Clyde Avenue, Suite 105
Mountain View, CA 94043

Shelli Meneghetti
The 3DO Company
600 Galveston Drive
Redwood City, CA 94063

Brad Buckman
7th Level
6158 Temple Hill Dr.
Hollywood, CA 90068

Sheri Denning
7th Level
1110 East Collins Blvd., Suite 122
Richardson, TX 75081

Bill Wentworth
Absolute Entertainment
10 Mountainview Road, Suite 300
Upper Saddle River, NJ 07458

David Curtin
Access Software
4750 Wiley Post Way, Bldg. 1, Suite 200
Salt Lake City, UT 84116

Rob Horjus
Acclaim Coin-op
2593 Coast Ave.
Mountain View, CA 94043

Brian Milack
Acclaim Entertainment
One Acclaim Plaza
Glen Cove, NY 11542-2708

Jill Higgins
Accolade
5300 Stevens Creek Blvd.
San Jose, CA 95129

Dara Hyde
Activision
11601 Wilshire Blvd., 10th Floor
Los Angeles, CA 90025

Bonnie Hammer
Adrenalin Entertainment
5301 Beethoven Street
Los Angeles, CA 90066-7047

Bill Lewis
Advanced Resources
5201 Great America Parkway, Suite 320
Santa Clara, CA 95054

Helen Provencher
Aesir Software, Inc.
1003 Commons At Kingswood Station
East Brunswick, NJ 08816

Maurice Konkle
Alexandria Studios
872 Higuera Street
San Luis Obispo, CA 93401

Mary Ruffol
Alias Wavefront
110 Richmond Street East
Toronto ONTARIO M5C1P1
CANADA

Justin Gray
Alsys Software Corporation
1331 Columbus Ave.
San Francisco, CA 94133

Keith Metzger
Amazing Media
55 San Anselmo Avenue
San Anselmo, CA 94960

Dave Davis
American Laser Games/QQP
4801 Lincoln Road, N.E.
Albuquerque, NM 87109

Diego Angel
Angel Studios
5962 La Place Court, Suite 100
Carlsbad, CA 92008

Dennis Streveler
AnimaTek International
1650 South Amphlett Blvd., Suite 212
San Mateo, CA 94402

Anthony Anderson
Ant Software
3077 S. Quince Way
Denver, CO 80231

Steven Blackburn
Apogee Software
3960 Broadway, Suite 235
Garland, TX 75043

George Broussard
Apogee Software
3960 Broadway #235
Garland, TX 75043

Atari Corporation
1196 Borregas Avenue
Sunnyvale, CA 94089

Patrick Breen
Atomic Dog Software
PO Box 523
Medford, MA 02155

Kevin Blaker
Autodesk, Inc.
111 McInnis Parkway
San Rafael, CA 94903

Igor Gasowoski
Berkeley Systems
2095 Rose Street
Berkeley, CA 94709

Constance Gachowski
Bethesda Softworks
1370 Piccard Drive
Rockville, MD 20850

Noriko Kamei
Big Top Productions
548 Fourth St.
San Francisco, CA 94107

Mike Brazil
Big Tree Software
7402 Prodan Dr.
Huntington Beach, CA 92648

Robert Bayse
Bitmasters
1021 S. Wolfe Rd., #250
Sunnyvale, CA 94086-8806

John Bottl
Black Ops Entertainment, Inc.
2121 Cloverfield Blvd., Suite 204
Santa Monica, CA 90404

Christina Cade
Blizzard Entertainment
19840 Prairie Avenue
Torrance, CA 90503

Dana Christianson
Blue Sky Software
6165 Greenwich Rd. #340
San Diego, CA 92122

Dana Miller
BMG Interactive
1540 Broadway, 33rd Floor
New York, NY 10036

Steve Meretzky
Boffo Games
10 Concord Crossing, #310
Concord, MA 01742

Kim Haun
Borta & Associates
100 Carpenter Drive, Suite 206
Sterling, VA 20164

Seth Mendelsohn
Boss Game Studios
8414 154th Avenue, N.E.
Redmond, WA 98052

Liz Chiang
Broderbund
500 Redwood Boulevard
P.O. Box 6121
Novato, CA 94948

Jean Center
Brooktree Corporation
9868 Scranton Road
San Diego, CA 92121

Heather Tarpy
Capcom
475 Oakmead Parkway
Sunnyvale, CA 94086
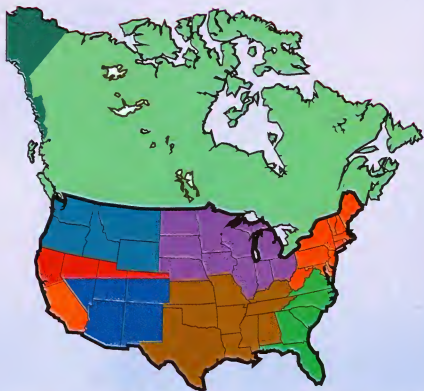
Georgia Gianini
Catapult
20823 Stevens Creek Blvd., #300
Cupertino, CA 95014

Karen Uminski
CDRP/Chestnut
101 Rogers Street
Cambridge, MA 02142-1049

David Kalish
Ceridus Software
7 Walsh Dr.
Mill Valley, CA 94941-2600

Saul Altabet
Cirrus Logic
3100 W. Warren Ave.
Fremont, CA 94538

Human Resources
Codemasters
90 Park Avenue
New York, NY 10016

Debbie Keith
Compaq
1111 Bayhill Drive, Suite 475
San Bruno, CA 94066

Lisa McCurty
Compton's Newmedia
2320 Camino Vida Roble
Carlsbad, CA 92009

Christopher Allen
Consensus Development Corp.
1563 Solano Ave. #355
Berkeley, CA 94707

Pam Maddalena
Copithorne & Bellows
100 First Street, Suite 2600
San Francisco, CA 94105-2634

Sandra Gibson
Corel Corporation
The Corel Building
1600 Carling Avenue
Ottawa ONTARIO K1Z 8R7
CANADA

Chuck Bueche
Craniac Entertainment
2040 Polk St.
San Francisco, CA 94109

Linda Vallner
Creative Labs
1901 McCarthy Blvd.
Milpitas, CA 95035

Glenn Farley
Creative Software
300 3rd St. #1212
San Francisco, CA 94107

Crystal Dynamics
87 Encina Avenue
Palo Alto, CA 94301

Peter Lamen
Cybergear
201 Sydney Street
Cambridge, MA 02139

Lester Humphreys
Cyberlore Studios, Inc.
36 Service Center Rd.
Northhampton, MA 01060

Christopher Haupt
CyberPuppy Software
650 Castro St. #120-368
Mountain View, CA 94041

Sarah Benedetto
Cyclone Studios
3515 Edison Way
Menlo Park, CA 94025

Leslie Pardew
Cygnus Multimedia Productions
776 East 930 South
American Fork, UT 84003

Etsuko Adelman
Data East USA, Inc.
1850 Little Orchard St.
San Jose, CA 95125

Mike Albanese
Davidson & Associates
19840 Pioneer Ave.
Torrance, CA 90503

Mike Goldstein
DIC Entertainment
303 N. Glenoaks Blvd.
Burbank, CA 91502

Digital Pictures
1825 South Grant St., Suite 900
San Mateo, CA 94402

Tim Johnson
Digitalwest Interactive
19229 Sonoma Highway, #201
Sonoma, CA 95476

Disney Interactive
500 South Buena Vista, MC-8424
Burbank, CA 91521

Collin Boswell
Domark
1900 South Norfolk Street, Suite 110
San Mateo, CA 94402

Phil Michaelson
Dream Fabrication & Design
655 Redwood Highway, Suite 301
Mill Valley, CA 94941

Robert Leh
The Dreamers Guild
9801 Owensmouth Ave. #1
Chatworth, CA 91311

DreamWorks
100 Universal Plaza
Lakeside Building #601
Universal City, CA 91608

John Doherty
Edge Interactive Productions
906 Granite Drive
Pasadena, CA 91101

Peter Stern
Electric Dreams
13891 Newport Avenue, #285
Tustin, CA 92680

Andre Gagnon
Electric Sky
2066 NW Irving St. #2
Portland, OR 97209

Suzanne Garcia
Electronic Arts
1450 Fashion Island Blvd.
San Mateo, CA 94404

Foster Hall
Electronic Arts
4400 Dominion Street
Burnaby, BC V5G4G3, CANADA

Paul Bowler
Enix
2679 151st Place, N.E.
Redmond, WA 98052

Rick Goodman
Ensemble Studios
12655 N. Central #700
Dallas, TX 75243

Rick Van Ysseldyk
Epicenter Interactive, Inc.
22483 Pacific Coast Hwy. #201
Malibu, CA 90265

Thomas Dowd
FASA Interactive
1100 W. Cermak
Chicago, IL 60608

Iver Cooper
Firefly Software
6247 N. 23rd St.
Arlington, VA 22205

James Barnes
First-Person Gaming, Inc.
3777 Decoit Rd, #416
Hayward, CA 9545

Bill Kunkel
Fog Studios, Inc.
330 S. Decautr #158
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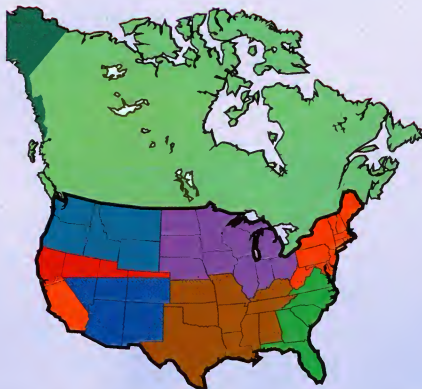
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Every day, nearly twenty

report having

In 1996, that number
will increase

MINDSCAPE®

alphas

Previews ... for men who don't eat quiche

W inter sales are traditionally slow, so manufacturers are working hard to keep the sales momentum going with titles that are showing off the true power of the next-generation systems. Here's a few of tomorrow's best games.

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A futuristic blend of racing and action with a nice, strong graphic punch

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Following in Namco's footsteps, Sega gears up with this exotic 3D motorcycle racer

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Merging strategy and puzzles to the *Doom* model, SIE begins its second generation

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Microprose works to bring new life to its strategy lineup with a sequel to the classic

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LucasArts creates what may be one of its best ever strategy games

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Sega hopes to prove that action is the backbone of gaming in its beautiful shooter

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Up against stiff competition, 7th Level hopes to prove itself in the RPG arena

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From physics models to 3D landscapes, Paradigm shows its "ultra wings"

80 Deadlock PC

More than just a good-looking game, this promises to bring scores of gamers together

PANZER DRAGOON 2

RETURN TO KRONDOR

TOP GUN

M.D.K.

CIVILIZATION 2

DEADLOCK

AFTERLIFE

MANX TT

PILOT WINGS

TENKA

MDK

Shiny Entertainment tries to show the world it's not just another bunch of pretty faces with its new, grim and gritty PC action game
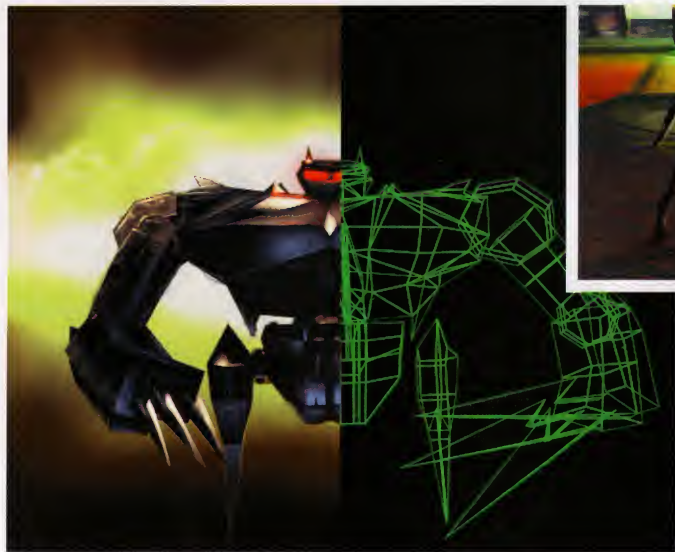
Hero of the hour (and Next Generation cover boy) Kurt Hectic models the stylish helmet-mounted sniper rifle, the latest fashion for the well-dressed man fighting off alien hordes (top). One of Glut's monstrous sentries (left) shows off his wireframe under garments. Each character will be modeled realtime

Shiny has pulled out all the stops in creating what it hopes will be the ultimate game experience

Shiny Entertainment is probably best known for *Earthworm Jim*, and before that (when as a group it worked for Disney and Virgin), *Aladdin* for Sega Genesis. "We're definitely being typecast as developers of cutesy platform games," said Shiny Entertainment's producer for *MDK* Nick Bruty, "but the folks at Shiny have done all kinds of games and have a lot of different interests and really wanted to get away from that for a while." And they're doing so with a vengeance. Enter *MDK*, the working title of Shiny's first-ever PC effort.

In the year 1999, the

Earth is invaded by the intergalactic megalomaniac Gunter Glut. He's snared

Format:	**PC**
Publisher:	**Interplay**
Developer:	**Shiny Entertainment**
Release Date:	**November**
Origin:	**U.S.**

the Earth in one of his universe-spanning electric "Streams," which has brought the rotation of the planet to a grinding halt and enabled Glut's army of "Stream Riders" to cross the vast distance from their home world. With them come Gunter's eight mining cities, unimaginably gigantic mobile platforms which crawl over the surface of the planet wreaking havoc as many Earth cities are simply run over in their quest for valuable resources. Millions die, and the few Earth people who are left have

Shiny's signature humor shows through in Bones, Hectic's gene-spliced dog
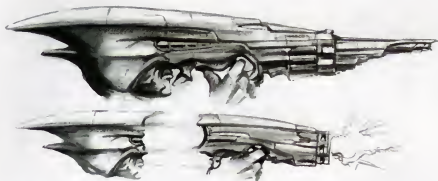
Hectic's main gun functions as either a short-range, fully-automatic machine gun, or a long-range rifle

no choice but to hide as best they can.

But there is hope. High above the surface of the Earth, Doctor Fluke Hawkins has spent the last five years stuck in a "flange orbit," along with his genetically engineered, six-legged, and hyper-intelligent dog, Bones, and his protégé and lab assistant Kurt Hectic.

When Glut invaded the Earth, the Doctor grabbed Hectic (the closest thing to a warrior who was handy) and quickly outfitted him with whatever inventions were at hand, including a

bullet-repellent suit, a body-mounted gun, the atmosphere-grabbing Ribbon Chute and heaps of other goodies, then dropped him on a hastily conceived assault mission.

Each of the game's eight (or

perhaps nine — the team hasn't decided yet) worlds has been divided into four stages of gameplay: Freefall, Traversal, Section, and Blastoff. In Freefall, the player dives from the air onto the surface of one of Gunter's mining platforms, steering through radar devices and alarms as he plummets. Trigger enough alarms, and you'll be dodging surface-to-air missiles too.

The game's main action takes place in the Traversal stage where — since Hectic's gun can be worn on either his arm or his head — the player has a choice between two distinct styles of play. When arm mounted, it functions as a rapid-fire machine gun, handy for

mowing down large numbers of close-at-hand enemies. This is Action Mode, using a second-person view, behind and above the player, and gameplay is vaguely *Doom*-like. When the gun is head-mounted, Hectic jumps into Sniper Mode, and the perspective shifts to a magnified view straight through the

Hectic blasts his way through Glut's mining city (top, middle). The world as seen through the sniper-cam (above)

Hectic plummets to Earth. The first portion of every stage means dodging radar beams and SAMs (left). One of Dr. Hawkins' typical inventions: the world's smallest nuclear explosion. A too-hasty bailout results in most of Hectic's inventory not landing where he does — the best explanation we've heard for why useful items are scattered around

ng alphas

The design work on Hectic's rifle shows the game's gothic influence in its fine detail (top). Hectic deploys the Ribbon Chute (right). Players must carefully time when to stop the freefall to avoid being either shot down or going splat
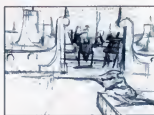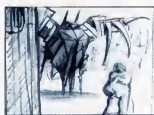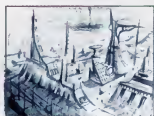
Conceptual art shows the scope of Shiny's ambition — a fully realized city in which the player can go anywhere

barrel of the gun. This mode is useful for hitting specific targets from a long distance. The designers at Shiny have tried to structure the game to reward sneakier players as well — it takes longer, but it's safer, and you're more likely to find special items.

The Boss Section is, perhaps, self-explanatory. The Blast Off section is much like Freefall, except in reverse, as Hectic makes his escape through the now-alerted mining city defense systems and attempts to gain the relative safety of the Doctor's orbiting platform.

Shiny has pulled out all the
stops in creating what it hopes will be the ultimate game experience. The company has committed itself to using only high-res 640x480 screens, with heavily detailed texture-maps and complex motion scripts and systems of behavior for everything that moves. It's shooting for *Virtua Cop*-style reactions among fallen enemies, and especially bosses, but has gone *Virtua Cop* one better. While all characters are fully

motion-captured, the motion scripts of limb movements are split up, and can be mixed and matched so that very few reactions will look the same twice.

The effort is even more impressive when you learn that Shiny intends to write each line of code in low-level machine assembly code. It also intends to utilize the power of every graphics card and 3D accelerator on the market.

"The fact is that regular VGA is boring," argues producer Bruty. "It works one way and conforms to one standard, which is why everyone uses it. Most graphics cards do a lot of exciting things that almost no one ever exploits. But if you've got a card that can do automatic line drawing, you ought to be using it. It works faster and looks better, but no one does because they've got to deal with, like, 20 card models and formats."

It may sound overly ambitious, but the Shiny team is confident it can complete *MDK* — and in time for Christmas. "It's actually easier than it sounds," says Bruty. "We've got one guy, Andy Astor, who's doing nothing else but working out routines for video cards. Just about everyone here has done a lot of work with PC assembler before, and, we've got almost a year... We're not worried." **ng**

Sentry guardbots can either be snuck by or blasted to pieces

The Shiny team:
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2. Loudvik Akopyan
3. Tim Williams
4. David Perry
5. Andy Astor
6. Nick Bruty
7. Bob Stevenson
8. A dead man

Famous for its realistic 3D racing titles *Rad Mobile* and *Sega Rally*, AM3 has now directed its talents toward motorbike racing. **Next Generation** caught up with the revolutionary designers in Tokyo

Manx TT

Format:	**Arcade**
Publisher:	**Japan**
Developer:	**Sega/AM3**
Release Date:	**TBA**
Origin:	**Japan**

Manx TT offers an authentic reproduction of the famous Isle of Man track, including woodlands (left) and mountainside chicanes (above)

Manx TT, based around the Isle of Man motorcycle race of the same name, is a game with an unparalleled level of realism. The data for the game's central track has been derived from the actual roads of the official TT course — from the start the player rides through the woodlands, across the countryside, and into the seaside town, up to the mountains and back to the city's main street to finish.

The attention to detail does not stop there, however. The cabinet includes a throttle-induced kick-back system, which pushes the bike toward the body to exaggerate the sensation of speed, and a revolutionary sound system that vibrates the player with sounds sampled from real TT bikes, including a woofer speaker set in the muffler to recreate the distinctive exhaust note of a TT bike. Innovations like this can also be found in the experience — when riding, the feet can be lifted off the ground and the bike steered using body weight.

Manx TT's basic cabinet comes equipped with two such hydraulic-controlled bikes, with the possibility of a four-cabinet link-up enabling eight players to compete at once. This link-up was first shown at the JAMMA show (**NG 12**) and received a universal welcome from all who attended.

AM3, the team behind *Manx TT*, allowed our staff to speak to four of the key players behind the game's development — Tetsuya Mizuguchi (Producer), Jun Uriu (Chief Designer), Shinich Fujii (Planner), and Norimasa Yatsuzuka (AM3 Public Relations).

NG: Why did you decide to base a game around the Manx TT race?
TM After *Sega Rally*, I wanted to make a game with a big graphic impact that used the player's body. Looking through a magazine, I saw an article about the Isle of Man and I found the island very beautiful — perfect for a nice racing game. Moreover, in Japan there are

Producer of Manx TT, Tetsuya Mizuguchi (top). Sega's Japanese offices house the AM3 R&D team (above)

groups of bikers who love riding bikes on the open road. I wanted to make a bike game mixing these two elements.

NG: How many courses are being designed for the final game?

JU: Two. One is an existing course based on the TT race, and the other, still in progress, is an original seaside track.

NG: Will there be a selection of bikes?

JU: Currently, the player has no choice. The end game will have four different bikes with different specifications.

TM: In the game we've tried to recreate

Manx TT is more realistic than Cyber Cycles. We believe we have reproduced the real feeling of driving.

TM: You really drive the bike as if you were driving a real bike. You don't move your hands so much, you drive with your body. The main problem of games like Cyber Cycles was the position of the player's head. When turning into a slope, the head moves from the center of the screen, so the impression is less realistic. With Manx TT we tried to compensate for this and succeeded in keeping the head centralized where the visual impact is the strongest.

NG: Will it use the Model 2 board?

TM: Yes, we used a CRX-A Model 2. It is the same board used in Sega Rally.

JU: It is more or less the same board found in VF2 as well, but the version is different. Virtua Fighter 2 used an A Model, we have a B Model.

TM: Concerning the sound, to keep the realistic impression we needed four outputs. The Model 2 has two sound outputs, so we needed to find some more somehow. In the end we used another Model 1 sound board to cross over.

NG: And does a bike game throw up any unique technical challenges?

TM: Well, to make a bike you need more polygons than are required for a car. When we said we wanted to have eight bikes in competition, everybody thought it was impossible because of the high number of polygons needed. So we set a limit on the number of polygons for each bike. Our designers then drew the bikes within the limit. They succeeded in making very nice bikes that used relatively few polygons. Eventually we succeeded in making our eight-player version without speed loss.

In order to keep the game's speed at 60 fps, AM3 had to set a limit on the number of polygons used in the construction of each bike. The result is realistic-looking bikes made from relatively simple shapes (above)

AM3 — better by design

The team behind Manx TT is Sega's Amusement Machine R&D dept. 3. Although it is AM2 who has the honored reputation of employing the Japanese game industry's best programmers, AM3 is renowned for its wealth of talented designers and musicians. The 100-strong team last year released around four titles, an average for a department of its stature. This year it hopes to improve on those statistics.

different styles of riding. We believe there is a German technique, an American technique, etc. The bikes themselves will have different ways of running, different levels of aggression. The player can choose a bike from one of these specifications. We received advice from the Castrol Honda team and cooperated with its R&D team.

SF: The Castrol Honda team also helped us with the sound effects — we wanted the driver to really feel like they were on a bike. To do this, the sound has to come from a certain part of the bike. We also sampled a real person riding.

TM: When making the cabinet, it was important for us to discover how the sound traveled to the ear of the rider.

NG: What do you think Manx TT has over Namco's Cyber Cycles?

TM: To be honest, I really like Cyber Cycles, but the courses all look the same and are not very varied. Manx TT features tracks with characteristics directed toward jumps and the courses are varied and very beautiful. Also,

Manx TT will rely heavily on the technological advancements made by AM4 in cabinet design and powered controls

Top Gun:

Spectrum HoloByte jumps into the rapidly growing field of console flight games with this PC port

Fire at Will

Format:	**PlayStation**
Publisher:	**Spectrum Holobyte**
Developer:	**Spectrum Holobyte**
Release Date:	**May**
Origin:	**U.S.**
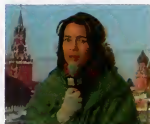
The FMV sequences star James Tolkan as Hondo (almost exactly the same role he played in the original *Top Gun*), and Julie Carmen (*In the Mouth of Madness*)

With *Top Gun: Fire at Will*, Spectrum HoloByte has adapted its PC flight sim of the same name for PlayStation. The game, using a storyline extended from the Tom Cruise film, puts the player in the role of Maverick and begins at flight school, the perfect backdrop for the game's initial missions which are devoted to mastering the intricacies of flying an F-14 Tomcat. The player then moves on to patrol various "hot spots" around the globe, from Cuba to Libya.

The PlayStation version differs significantly from the PC game, shifting the emphasis to action, rather than simulation. Flight still takes place in "3-space" (pilots can go anywhere they wish with a full 360° freedom of movement), however, they don't need to take off and land, or hunt enemies.

Once the briefing has ended, you begin the mission already in the sky with

The PS-X version of *Top Gun* eliminates the need to take off and land, and limits engagements to aerial dogfights

your opponents near, and every mission ends with a "boss" enemy. Also, a distinctly arcade-like system of weapon upgrades is in place, and players are awarded more powerful armament with each mission they finish. Weapons like the MIRV, which splits into three separate, independent homing missiles after launch, are complete fabrications unavailable in the real world.

This is far cry from the realism of *Flight Unlimited* or *Apache*. But, with more than 30 missions and an instant-action mode enabling you to jump into combat, the PlayStation version is squarely aimed at the action-conscious console audience. **ng**

Top Gun can be played from either a first- or third-person perspective, and it makes full use of PlayStation's polygon engine. First person (above)

This version differs significantly from the PC game, shifting the emphasis to action, rather than simulation

Tenka

From the company formerly known as Psygnosis comes one of the first true second-generation PlayStation titles. Its developers talk exclusively with **Next Generation**

Format:	**PlayStation**
Publisher:	**SIE**
Developer:	**SIE (Psygnosis)**
Release Date:	**TBA**
Origin:	**U.K.**

From the development studios responsible for *Wipeout*, *Krazy Ivan*, *Assault Rigs*, and *Novastorm* comes a title building on the success of its predecessors. Can *Tenka* do for PlayStation what *Sega Rally* and *Virtua Fighter 2* did for Saturn?

> **"*Ridge Racer* and *Toshinden* were very nice, but they just used the raw power of PlayStation to throw polygons at the screen"**
>
> **Martin Linklater,** senior programmer

While the rest of the software development community tries to match the technical innovation of games like *Ridge Racer* and SIE's own *Wipeout*, SIE considers these products to be archaic. Its commitment now is to what it calls, "The second generation of PlayStation games" — games seeking to truly manipulate the machine, rather than make the best of what it's ready to give. Martin Linklater, senior programmer on the *Tenka* team, spoke with **Next Generation**: "We think that games like *Ridge Racer* and *Toshinden* were very nice, but all they did was use the raw power of PlayStation to throw polygons at the screen. What they lacked was subtlety. By using the power afforded to you by PlayStation, alongside years of graphic expertise, we have managed to create a much smoother product, unlike the brash, hard-edged ones in the first generation."

The first title to be developed as part of SIE's second-generation manifesto is *Tenka*: a first-person perspective action game, which seeks to combine the heavy-duty violence of *Doom*. But far from attempting to create another brain-dead *Doom*-clone though, Paul Hilton, SIE's game designer, is aiming to define a new style for the first-person action genre: "One of the many goals we're hoping to maintain is total immersion in a universe, which suggests to the player that events have both occurred and are occurring in the environment as he progresses." He hopes to incorporate puzzles and strategy elements usually found in more intelligent adventures.

One way SIE has achieved this is through the implementation of sophisticated AI routines and clever planning of the layout and implementation of bad guys within the levels. These enemies will not wander around doing nothing until the player deigns to show up in his or her sector — "We have approached the idea with a fresh outlook," asserted Hilton.

But *Tenka* does not just set out to be innovative in the area of design. Graphic quality is always going to be a crucial factor in any game's success or failure and its importance has not been overlooked by SIE. The pictures **Next Generation** has acquired are impressive, but what can't be appreciated in these static shots is the
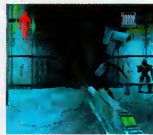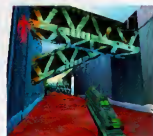
The team is testing right now to have guns that appear from the side

Low level programming

Andy Beverage, designer of the PSY-Q development system for Saturn, stated, "(Saturn is) a real coder's machine. For those who love to get their teeth into assembly and really hack the hardware, Saturn will probably pack a few surprises." This practice — known as low level programming — is useful for making vast leaps in software performance and technology (see the difference between *Daytona* and *Sega Rally*).

But do Sony's libraries handicap the use of this kind of Low level programming on PlayStation? Martin Linklater thinks not: "Low level programming is very important when you need to squeeze every ounce of performance from a machine. In *Tenka*, we have used r3000 (low level language on PlayStation) in a few selected routines, but we normally find that PlayStation has the oomph to cope with optimized C quite happily. It's very much a case of analyzing what the code is doing, and identifying where execution time is important, which turns the technique away from C and toward r3000.

"We've found that the Sony software libraries were ideal for 99% of the game code, but the other 1% is r3000 for fast execution of time critical code," said Linklater

Does the world really need another *Doom*-style game? Well, maybe — if it looks as good as this one does

technical expertise on show in the game's 3D engine. Lee Carus-Westcott, *Tenka*'s producer, was quick to point out its advantages: "Never before has there been such a level of realism or complexity in environment and character graphics. The free-flowing nature of the geometry in the environment graphics certainly hasn't been achieved in the past. This sort of graphic complexity, coupled with our light-sourcing system allows uniquely high-quality graphics."

The advanced lighting system employed by SIE enables it to use as many realtime PlayStation lights in a scene as it wants, all with realistic attenuation. In fact, in one of the game's larger scenes there are 404 realtime lights in operation. Lead programmer Simon Moore claimed, "it is very hard to imagine just how good (the lighting) is from a screen-shot, but when you see a character lurking in and out of the shadows, the effect is very impressive."

The *Tenka* team insists

that it has had no problems exploiting PlayStation's lighting capabilities. SIE's system takes all the information it needs from SoftImage, MicroSoft's 3D graphics design software. Using this package as the editing tool in the conversion and editing process appears to have played a prominent part in achieving the quality and realism of the

Tenka's protagonist — that's you, that is — strides out toward impending doom (sic). Expect more on *Tenka* next month

environments in *Tenka*. As Simon Moore explained: "Our conversion process is so comprehensive that nearly all of the texturing and lighting capabilities of SoftImage have been able to be interpreted by our converter. This includes things like Alpha blend transparencies, UV mapping of patch models, repeated textures, spot lights, infinite lights, and so on ... "

Whatever the quality of the

3D software being used, hardware restrictions will always have the final say in dictating what can really be done on any specific machine. PlayStation can present specific problems to programmers, especially with its propensity to warp textures. Texture warping is caused by the polygon drawing chip inside the PlayStation (GPU) interpolating texture coordinates linearly, without perspective correction. According to Paul Hilton, this is never going to go away without severely limiting the graphic environment.

Linked to this problem is PlayStation's habit of smearing larger polygons when they reach the edges of the screen. Again, it seems to be something that cannot be avoided. So how did the *Tenka* Team cope? Linklater explained: "*Tenka*'s graphic engine incorporates a dynamic multistage clipping and meshing system whereby we can minimize this effect considerably. We have also tackled the issue of polygons being lost from the edges of the screen, and when we identify these problems as they arise, we are able to compensate."

Given the problems that SIE has overcome in the production of *Tenka*, coupled with its innovative use of the Softimage 3D design package, consumers can expect a graphically stunning title, a uniquely smooth 3D engine, and some breathtaking special effects. As Lee Carus-Westcott said: "Unlike some other games, the complex graphics engine goes hand-in-hand with the gameplay, as opposed to limiting it. Gamers are tired of the often inversely proportionate relationship between stunning graphics and gameplay."

Maybe SIE's second-generation titles will re-address the balance once and for all. Next Generation is keeping a close eye on *Tenka* as it develops, and we hope to bring you more exclusive coverage next month. ng

Tenka features sophisticated light-sourcing with no slowdown

PlayStation can present specific problems to programmers, especially with its propensity to warp textures

Some technical numbers: 160,000 polygons used for environment; 32,000 polygons per sector in entire game: 10,000 polygons loaded per disk access: 100-350 polygons per character. Frame Rates: 25 fps (UK PAL), 30 fps (US NTSC)

Civilization 2

The doyen of strategy games worldwide, Sid Meier, releases a sequel to the seminal *Civilization*

The graphics in city view have also received a much-needed facelift, superseding the original's dull squares

Format:	**PC**
Publisher:	**Microprose**
Developer:	**Microprose**
Release date:	**March**
Origin:	**U.S.**

Civilization 2 resolves one of the original title's main weaknesses — the favoritism shown to military strategies
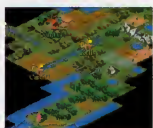
Civ 2 uses a more attractive, isometric, graphical style than 1

o compare the frantically bouncy *Yoshi's Island* to the somewhat reserved *Civilization 2* is not as strange as it first seems. Both games have predecessors ranking among the most fiendishly addictive on their respective systems (Super NES's *Super Mario World* and PC's *Civ*), both arrived unexpectedly after years of secret development and each is the work of a top-notch designer.

Civ 2 is significantly more than an update of the 1991 classic. Instantly noticeable are the graphics — every object now appears in isometric detail. The city view is now more akin to the flashy *SimCity 2000,* but the aim throughout has been to make the game identifiable to fans of the original.

Although it would have been easy just to update *Civilization's* plain graphics, Meier has also tackled some of the original's "weaknesses." "*Civilization* greatly favored the military approach to achieving victory," Meier admits. "We've now adjusted this balance to make trade and diplomacy a more integral part of the game." The game now features a changed

governmental system and a slightly altered trading strategy.

More obvious extras include 20 new military units with which to quash enemies, including stealth bombers, paratroopers, and elephants, but the main change is that all units now have damage points. It will now be possible to retreat damaged units and repair them in your cities. There will also be 14 more wonders of the world to bolster your forces and civilization score.

Although programming of *Civilization 2* is all but finished, it is not being released until March at the earliest. "Everything must be perfectly fair and balanced before we give the go ahead," said Meier. Sounds like Miyamoto himself.

Civilization 2 provides an extra 20 military units ranging from elephants to stealth bombers which can be brought to bear when crippling the enemy

"We've now adjusted the balance to make trade and diplomacy a more integral part of the game"

Sid Meier, game designer

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PC/MAC CD-ROM

After**life**

In what may be the ultimate God-game, LucasArts give players a chance to shake the foundations of Heaven itself (and Hell, too)

Format: **PC**
Publisher: **LucasArts**
Developer: **LucasArts**
Release Date: **April**
Origin: **U.S.**

Despite its novel approach, *Afterlife* looks very similar to games like *SimCity 2000* and *Transport Tycoon*

The punishment must fit the crime in Hell, and you'll need to be both quick and creative with the poor treatment of your charges

O.K., there's a lot of game ideas that come out which are just variations on a theme, but a few concepts are truly... well, cool. LucasArts' new resource management sim is one of those titles. In *Afterlife*, Mike Stemmle, of *Sam and Max Hit the Road* fame has returned to give players a chance to not only play God, but to also reshape Heaven and Hell into their own image.

You'll have access to an impressive array of tools and edifices to build with

In form, *Afterlife* isn't really all of that different from such resource management games as *SimCity 2000* or *Transport Tycoon*, but the humorous theological aspect of the title gives the strange sim a feel that's uniquely its own. In order to please the nebulously named "Powers that Be," players must bring in souls, judge them, and then pass them along to the rewards (or punishments) that are appropriate. Each soul appropriately sorted will earn the player some more divine credit, enabling them to build more of the game's 250 structures including punishments like "The Disco Inferno" and "Taco Hell" and rewards like the "Dream-a-Dice." You'll need to build special stations for processing those souls who believe in reincarnation to send them back to Earth.

Looking at the early shots of this game, it's hard to see how it can fail. If LucasArts manages its usual level of graphics and programming efficency, this new product may be its best PC game of the decade.

The humorous theological aspect of the title gives this strange sim a feel that's uniquely its own

You set the pick for Magic, who rolls to the top of the key. As the defender rotates to cut off the lane, Magic lofts a pass to the wide open power forward for the alley-oop jam.
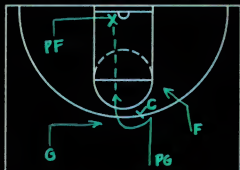
Sometimes it's the smallest details—Jams off the glass, Defensive thunder swats, Reverse dunks, and Play-by-play commentary, that separate hoops from lawn bowling.

"This fastpaced, first-person basketball sim does a phenomenal job of bringing players into the action."
— *NEXT Generation* magazine

Franchise player mode lets you abuse opponents like they were players for an expansion team. Control Magic, Kareem, or Anyone thru a 13, 26, 52, or 82 game season.

GAME 7

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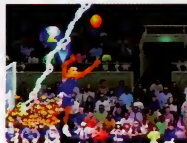
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Panzer Dragoon 2

Sega's sequel machine cranks into gear with a follow-up to its short-lived but beautifully realized dragon epic
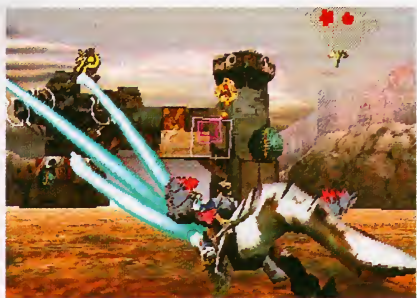
Panzer 2 utilizes "on rails" gameplay, although the freedom within that area should provide sufficient realism for the player to feel in control

The 3D obstacles to be encountered are huge (top). Meeting an enormous warship (above left). Watching the action from below (above right)

Format:	**Saturn**
Publisher:	**Sega**
Developer:	**Sega Japan**
Release Date:	**TBA**
Origin:	**Japan**

As the game progresses the baby dragon grows older enabling further gameplay elements to be explored

Panzer Dragoon was one of Saturn's "killer apps" available just a few months after launch. Rumored to be the most expensive console project ever undertaken by Sega, the game borrowed from the classic shooter *Space Harrier* and added the depth and graphic characteristics associated with sophisticated 3D consoles.

The main attractions of the sequel will be the improved graphics engine and the addition of a new playing mode where the action takes place on the ground rather than in the sky. The dragon starts the game as a baby, only able to walk and still clumsy with its wings. As the game progresses, the dragon grows older and more skilled enabling further gameplay exploration.

The fighting mechanism seems to be identical to the original game — a radar appears in the top right corner of the screen and enemies are targeted through the square on the main playing area. But with the addition of ground attacks, *Panzer 1* virtuosos should find new difficulties to master.

Panzer Dragoon's limited gameplay will need a substantial overhaul if it's to deter criticism from jaded sequel junkies. Hopefully the company will pay as much attention to how it plays as to how it looks. **ng**

Panzer Dragoon 2 features versatile camera placing, enabling the player to view the action from differing angles. Here (right), the baby dragon, still unable to fly, is being attacked by a scorpion monster

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hidden attacks and multi-level super combos. Match up in head-to-head battles or lock into two-player combat with twelve of the deadliest Street Fighters of all time. Nine

Return to **Krondor**

Will the real *Krondor* please stand up? 7th Level readies itself to go head-to-head with Sierra in the battle over the ongoing *Riftwar* saga

Players who have been waiting patiently for years will finally get a chance to revisit Raymond Feist's world of myth and magic

Format:	**PC, Mac, PlayStation**
Publisher:	**7th Level**
Developer:	**7th Level**
Release Date:	**April**
Origin:	**U.S.**

With an all new story written by Feist to fill in some gaps left by the novels, *Return to Krondor* promises to deliver a fresh RPG experience to genre and license fans alike

Back in college...

Raymond Feist, the famed creator of the *Riftwar* series, talks here about how *Return to Krondor* fits into the ongoing saga. "Midkemia is an objective world, there's stuff in the world that I never talked about in the books. The whole place started when I was in college and built this gaming world for role-playing. So I am not so much writing fantasy novels in the same sense that other writers are, I'm writing historical novels based on events in a fictional world. We're not talking about a game then that's based on a set of novels, we're talking about a game based on a world that a series of books is also based on."

W ith *Antara*, the oncoming release of Sierra's follow-up to the successful *Betrayal at Krondor*, there's a lot of curiosity as to what newcomer 7th Level will be able to do with its officially sanctioned sequel, *Return to Krondor*. Like the team that is working on *Antara*, the developers of *Return to Krondor* realize the importance of staying close to the path the original game set down. As Raymond Feist himself notes, "We're taking what we did with *Betrayal* as a foundation, looking over every aspect of the game and deciding what needs to be changed. Where we see the opportunity to change things — we're improving it."

These improvements have come in changes to the combat engine, higher quality graphics (the game will run in full 640x480), and an overall feel better suited for a role-playing environment. Andy Ashcraft, the game's designer explains, "Dynamix was a flight sim company, and their engine was a flight sim engine that had been tweaked into

an RPG. Our strength is in animation, so we're tweaking an animation engine into an RPG." Using this strength, the team has put together a motion-capture-based character combat system, come up with more than 40 characters, each with its own personality and voice, and created cities that are more than bit-mapped screens, but navigable worlds.

While it's still not clear which game will come out on top, it's obvious that the end result of the battle will bring out gamers as the true winners. Both *Antara* and *Return to Krondor* have the opportunity to be classic RPGs, it's just a matter of who has the skill and know-how to produce such a title. **ng**
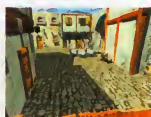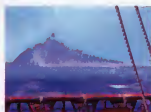
Through detailed storyline and expansive graphics routines, players will get a chance to look at their favorite fictional landscapes like never before

Paradigm

PilotWings 64 is one of Ultra 64's most anticipated titles. Building on the original Super NES classic, this Texas-based company has a lot to live up to

Simulation

> **"The wind effects are very big in the game, especially with the hang glider — you have a lot of local weather patterns to hit"**
>
> **Dave Gatchell,** Paradigm

Paradigm Simulation is responsible for *Pilotwings 64*, the sequel to the Super NES classic *PilotWings*. It is a five-year-old US company who's prime business has been in the high-end simulation market. Its core function is designing flight sims, driving simulators, and marine simulators. **Next Generation** spoke to VP Dave Gatchell.

NG: Tell us about your involvement with Nintendo in the Ultra 64 project.
DG: Our involvement really came about through SGI, who mentioned us to Nintendo during discussions over the hardware. We were contacted by Nintendo in April 94 to see if we would be interested and, of course, yes, we wanted to pursue that.
NG: Had you been specifically approached with *Pilotwings* in mind?
DG: No, the *Pilotwings* project hadn't been decided at that point.
NG: Does the analog controller help you with the design of *Pilotwings 64*?
DG: Coming from a simulation background we try to use physics-based motion models. And the six degrees of freedom offered by flight simulators can be best-controlled with analog joysticks which adapts to pitch, roll, yaw, etc...
NG: So the analog joystick just controls flight motion?
DG: No, we also alter the camera independent of the actual flying experience, using the other buttons.

NG: Is that actually an important part of the gameplay?
DG: You can use a different view to find out where you're supposed to be going, where the pass might lead you; maybe see where bonus levels or bonus objects are — it's like being able to turn your head and say, "Oh, what's that area down there?"
NG: Did you spend much time looking at the original game?
DG: Definitely. We were instructed to study it very seriously so we spent quite a bit of time with it.
NG: Did you like it?
DG: Although it's a very linear, task-based game, it's really enjoyable, and it was a decent game for when it was published.
NG: So has this linear, task-based approach changed for *PilotWings 64*?
DG: Somewhat. There are still many courses and tasks that you have to complete in order to get to the next level, but what's different is that we've developed a very large database with three large areas that you can go off and explore.
NG: Does the weather affect flight?
DG: Yes, the wind effects are big in the

Forgive the poor quality of the above shot – *Pilotwings 64* features beautifully crisp 3D

game, especially with the hang glider. We have a lot of localized weather and air patterns. They're very realistic, with local winds and thermals, and we try to put them where they'd be in real life, so for instance, you get wind coming off the ocean, and so on.

NG: What kind of crafts will be featured in the final game?

DG: There are three vehicle types, and one other type of vehicle/character that we're not disclosing yet. The three types that we've exhibited are the gyrocopter, rocket pack, and hang glider.

NG: How hands-on is Shigeru Miyamoto's involvement?

DG: He's directed the game but we have our direct contact — a gentleman by the name of Mr. Wada — who we work with directly. We've met Miyamoto and he's been overseeing the game, but it's mainly through Wada-san.

NG: Does he come over, play it, and say, "Well, I want such-and-such ... "?

DG: Well, he hasn't come over to Dallas to play it. As far as I understand he's playing it at NCL because we're delivering demo's to them all the time and we're getting constant feedback.

NG: How realistic will *Pilotwings* be in terms of dynamics and handling?

DG: We're trying to capture the genuine feeling of flying, like for instance, when you catch a thermal and you get that feeling of lift. We really tried to strike a balance between using technically accurate hang glider flight models and a

feel which gameplayers can relate to.

NG: What will the frame rate be in the final game?

DG: Our target frame rate is 20 fps. It's the same when we're looking at any software, be it games or simulation.

NG: Were the game characters from Nintendo?

DG: Yes, they just turned up one day and we immediately started to implement them in the game. There's no story built around the characters, but they are very visible in the game and possess different characteristics. For example, the burly big guy requires a lot more lift, but can also turn the hang glider faster.

NG: How did it feel to take what was one of Nintendo's strongest games ever, and try to write a sequel?

DG: I can see some advantages to it. For example, we know our game has a ready-made audience of people who enjoyed the first game. But being new to game development (at least to consoles), we had lots of ideas, but Nintendo wanted us to stick to a formula that is recognizable as a sequel. Because Nintendo is the guiding hand we know we're not going to stray too far from the intended path. **ng**

Paradigm is a specialist in military sims as shown above. There are four vehicle types exhibited so far: a rocket pack, a gyrocopter, a hang glider, and the secret fourth one

> **"Shigeru Miyamoto directed the game but we have our direct contact — a gentleman by the name of Mr. Wada — who we work with directly"**
>
> **Dave Gatchell,** Paradigm
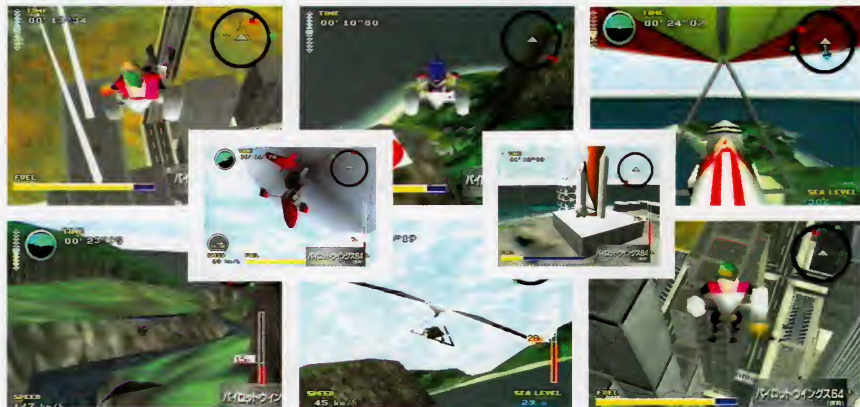
These shots were grabbed from Nintendo's press video and, while extremely blurry, give an indication of the quality of the visuals in Paradigm's first Ultra 64 title. Besides four different crafts, the game will feature action replays and a Game-Save mode that will use the console's unique memory cards

Deadlock

Accolade makes strides forward as it focus on graphics, gameplay, and more importantly... connectivity

Format:	**PC**
Publisher:	**Accolade**
Developer:	**Accolade**
Release Date:	**summer**
Origin:	**U.S.**

As in games like Maxis' *SimCity*, world building is a major part of *Deadlock*'s charm. How are you going to feel when your friend destroys it?

More important than any new look is *Deadlock*'s vision of the multiplayer future

Although intro animation is still incomplete, it already shows a look and feel that can't help but grab players' attention

While the space-conquest simulation genre has certainly been done before, it's only been recently that a combination of solid gameplay, good graphics, and interesting multiplayer options have been fully available. Now, after a dry spell of several years, a new generation of games is coming out to offer complex and absorbing gameplay along with the best visuals and sound effects that today's technology offers.

Accolade's *Deadlock*

stands up well against other strategy games on the market, both in terms of its look and the concepts of play. Although it's not as complex as such titles like *Pax Imperia 2* (**NG 15**), the title's infinite number of explorable worlds, the buying and selling of previously unexplored resources (such as information and reconnaissance), and a novel approach to city building give it a feel that is deep, while remaining inviting to the new user. All of this is blended with Accolade's proprietary lip-syncing technology and a sharp new set of alien life graphics.

More important than any new look, however, is *Deadlock*'s vision of the

Some planets are better suited for resource gathering. You'll do better to put your population centers elsewhere

The Windows environment really suits *Deadlock*'s multiple-screen interface

multiplayer future. Far more impressive in its scope than just another serial link game, *Deadlock* will enable players to compete against each other by modem, LAN, over the Internet, or even sending moves by e-mail.

The end result is a game that promises not only to look and play well, but also one that'll deliver long-term play in the form of head-to-head competition.

Each race has its own strengths and weaknesses, as well as a different attitude toward conquest

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Toshinden 2 PlayStation **Dark Stalkers** PlayStation **FIFA 96** Saturn **Primal Rage** 3DO **Missile Command 3D** Jaguar **The Hive** PC **11th Hour** PC **Chronomaster** PC **Strategic Conquest** Macintosh **Time Crisis** Arcade

finals

The reviews your mother always warned you about

84	PlayStation
86	Saturn
88	3DO
88	Jaguar
91	PC
97	Macintosh
98	Arcade
101	Virtual Boy
101	Neo-Geo
101	Genesis
101	Super NES

Every month you can count on **Next Generation** to deliver the hype-free guide to games. We get them, we play them, and we review them, with no concessions made to anyone. Controversial? Damn straight. But our obligation is to you, the people who actually buy the titles, no one else.

★★★★★ **Revolutionary**
Brilliantly conceived and flawlessly executed; a new high-water mark.

★★★★ **Excellent**
A high-quality and inventive new game. Either a step forward for an existing genre, or a successful attempt at creating a new one.

★★★ **Good**
A solid and competitive example of an established game style.

★★ **Average**
Perhaps competent; certainly uninspired.

★ **Bad**
Crucially flawed in design or application.

PlayStation

Cyberia
Publisher: Interplay
Developer: Xatrix Entertainment
One of the first PC ports for PlayStation is *Cyberia*, and what it does for the graphic adventure is notable even if not extreme.

Graphically, the game is superb. The slick rendered graphics of intro sequences and cut-scenes that once left the player feeling slighted when the game actually started is now finally available in the gameplay. The whole use of multiple camera angles, eerie soundtrack, detailed light-sourcing, and short effective cut scenes makes players feel as if they're controlling a science-fiction movie.

Unfortunately, along with that motion picture sense comes the reality of having to follow a script. The linear gameplay doesn't allow for wandering or adventuring. The entire game is on a track that constantly pulls you back to what you're supposed to be doing. Even the arcade-style shooting sequences have the ship on a track, although they're still quite

Cyberia **is a good-looking game, but it lacks the control**

enjoyable. And like any graphic adventure, the basic gameplay is doing things over and over until you figure out how to do it properly.

Creating your own story is the ideal graphic adventure and *Cyberia* doesn't come any closer to that, but what's there is still quite enjoyable.
Rating: ★★★

Dark Stalkers
Publisher: Capcom
Developer: Capcom
There is nothing about *Dark Stalkers* that won't delight the fan of the 2D fighter in general, and *Street Fighter* in particular. After the pile of *Street Fighter*s and its
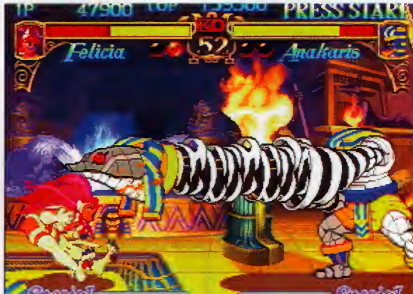
PlayStation's fighter *Dark Stalkers* **looks identical to the arcade version**

clones, however, it's time to look for the new and innovative. Which is really too bad as *Dark Stalkers* could arguably be near the height of development for 2D fighters.

Polished, smooth animation puts this game among the better looking 2D fighters, the classic Capcom animated graphics are comical and undeniably full of character, and the sound, though not spectacular, measures favorably against the genre's best.

Of course, what really makes *Dark Stalkers* special is the unbeatable *Street Fighter* engine, explosive special attacks, and vicious combos. The special attack meter (that enables you to pull off a super move after you've sufficiently punished your opponent) is also a nice addition. Plus, the characters in *Dark Stalkers* are very unique and have plenty of personality.

No matter how well it's being done, *Dark Stalkers* is essentially *Street Fighter* and with the new technology showcasing games like *VF2*, *Tekken*, and *Toshinden*, it just can't compete.
Rating: ★★★

Kileak The Blood 2: Reason in Madness
Publisher: Sony Music Entertainment (Japan)
Developer: Genki
The first *Kileak* was one of Sony Computer Entertainment's first titles for PlayStation. It was basically a poorly executed, generic *Doom*-clone with

absolutely none of the personality. With *Kileak 2: Reason in Madness*, Sony has corrected several of the original's problems.

The movement is still stiff but much smoother than the first. The biggest improvement is the variety in levels — no longer is it the same hallway over and over again. *Kileak 2* features a much more detailed and varied world.

The one thing that the first *Kileak* title did do well is the extensive and detailed cut-scenes, and *Kileak 2* does them even better. Unfortunately, all the greatest, cleanest cut-scenes in the world don't add anything to gameplay, but what has helped the gameplay is a new locking target, a smooth run button, and a larger variety in enemies.

Even after all the improvements, however, *Kileak 2* is still an average *Doom*-clone that offers nothing new to the genre.
Rating: ★★

Kileak **is yet another** *Doom* **clone that just doesn't play as well**

PlayStation

SOPHIA-MORE

Battle Arena Toshinden 2
Publisher: Takara (Japan)
Developer: Tamsoft Takara

One year ago when PlayStation launched in Japan, *Toh Shin Den* turned the gaming world on its ear with one of the most technologically impressive games ever seen. No one could believe that a game for the home could look so good and play so smooth. And for the first time on a home system, the game enabled each character to move in three dimensions.

Since then, however, games like *Virtua Fighter 2* (on Saturn) have come along with even more impressive graphics and better play mechanics. Therefore, the real challenge for *Battle Arena Toshinden 2* is to tweak the gameplay so that it can compete with the likes of *VF2*. The complaints about *Toshinden* were as follows: it wasn't fast enough; you couldn't attack enemies on the ground; there weren't enough moves; the panning camera made it tough to block; and the desperation moves were cheap. *Toshinden 2* has made an effort to correct many of these mistakes. The game is definitely faster, although the animation isn't as smooth as the original. You now have several ways to attack enemies on the ground and each character has at least two or three extra moves, plus there are the new overdrive moves. Unfortunately, the roaming camera angles still can be confusing, and can make your blocking decisions difficult.

While not all the complaints were answered, *Toshinden 2* will be one of the year's biggest titles. There's no denying the title's technical feats, with the best light-sourcing we've seen, amazing backgrounds, and the super moves. Head-to-head with *VF2*, however, *Toshinden 2* just can't compete. The depth of gameplay and complexity of the strategy isn't there, and the speed and smoothness of *VF2* far outweighs *Toshinden 2*'s light-sourcing and moving backgrounds.

Overall, *Toshinden 2* has been much improved and is a great fighting game. The initial "wow" of the first *Toshinden*, however, is gone and what's left is a fighting game that isn't deep, fast, or balanced enough to compete with the best.
Rating: ★★★★

Mondo's spear-toss is once-again in effect. Take notice of the light-sourcing's angle

The amazing light sourcing is most present in Duke's stage, where the curtain is down to start (top). New characters Chaos and Tracy add new life, and even crazier magical moves are present as well (above)

King's Field
Publisher: Ascilware
Developer: From Soft

This game is known as *King's Field 2* in Japan, and the advances it makes from the first Japanese release are quite amazing. At first glance *King's Field* looks like *Doom* with a sword, but there are just enough RPG elements and technological effects to make *King's Field* much more.

The absolute best feature in *King's Field* is the ability to look up, down, and all around in the richly detailed 3D world. You have to explore the world to find keys, uncover secret passages, purchase weapons, and find magical crystals, while battling enemies like fire-breathing dragons, axe-wielding guards, and some tough skeleton warriors. As you continue to play, you realize that the world is large and there isn't a place you can't explore.

If there is one crucial flaw in this title, it is the lack of dedication to either RPG or action

King's Field's amazing 3D world is complete and worth exploring

genre. The battles are slow and meticulous, and they lack a lot of the strategy involved in most RPG battles. Gaining levels, equipment, magic, and exploring keep the game fun enough to forgive some of the sluggish battles.

Overall, *King's Field* provides the kind of experience you'd expect from a 32-bit game. Its graphic flair and CD-quality sound jolt you into the world of *King's Field*. And while this isn't the best RPG or action game ever, it's a game that is thoroughly enjoyable and highly recommended. We like it.
Rating: ★★★★

Philosoma
Publisher: SCEA
Developer: Sony

Philosoma takes a classic genre, the shooter, and tries to combine every single type of shooter ever made into one game.

There's about a half dozen different styles of shooter represented and *Philosoma* serves as a capsuled salute to grand shooting genre. Fans of big explosions and near impossible levels will find a veritable cornucopia of mayhem put forth in about every imaginable scrolling form of 2D or (near) 3D. There is nothing revolutionary here, but that won't matter to the shooter fan who often has no qualms about settling for gameplay that stopped advancing years ago.

The graphics and sound really do nothing to take advantage of the advancing technology. If you want the next great experience in gameplay and graphics, *Philosoma* wouldn't even make a top 75 list. But it's almost fitting that the shooter, which has ceased to advance since the '80s, refuses to take on the glitter and special abilities of more powerful machines.

Still, there's plenty of explosions, balanced gameplay, fluid control, timely power-ups, and multiple weapon choices to keep any shooter fan happy.
Rating: ★★

Road Rash
Publisher: Electronic Arts
Developer: Electronic Arts

When the 3DO version of *Road Rash* hit, it was the premier example of 32-bit graphics and sound. The dash of FMV, rock soundtrack, and texture-mapped highways had all who witnessed it in awe. That was more than two years ago, however, and before the arrival of PlayStation and Saturn.

There's no denying the popularity of EA's classic crash-and-bash series, and *Road Rash* for PlayStation is the best-looking and best-sounding incarnation of the game to date. The graphics have even upgraded from the impressive 3DO version, with virtually no draw-in and really fast racing. The returning soundtrack comprised of songs from alternative rock groups like *Soundgarden* gives the game the grunge it so desires.

The real disappointment in *Road Rash* is that the actual game hasn't changed since the original Genesis game. Gameplay is deep with five tracks, alternate routes, and the *Road Rash* trademark kicking, punching, and cattle prodding. But as fun as *Road Rash* may remain, you can't help but feel the game is just using the 32-bit technology as eye candy for a 16-bit game.

There's certainly plenty to be said for *Road Rash* as one of the more playable of PlayStation games, but if you've already experienced *Road Rash* and you own *Soundgarden*'s CD, well then *Road Rash* should just be left on the pavement.
Rating: ★★★

Saturn

D
Publisher: Acclaim
Developer: Warp
First showing up on 3DO (**NG 12**), *D* is a totally rendered graphic adventure with a seriously spooky plotline. The obvious upsides to this game are the incredible graphics and the engaging story which is scary enough to genuinely frighten from time to time.

Demonstrating a dedication to true storyline development, this game in many ways represents the next step in interactive entertainment. Striking a delicate balance, the problem solve elements of the game are just challenging enough to satisfy and yet not so difficult as to impede your progress for very long.

The downsides, unfortunately,

Leading Laura through all the mysteries of *D* promises to be a wild and unpredictable trip

are nearly as notable. The most prevalent of all this game's troubles is the fact that the game moves too slowly. Of course, this isn't the type of gaming experience in which you'll need to depend on lightning-fast reflexes, however, the game is so slow that it becomes frustrating to play in a very short while.

Another shortcoming is the limited amount of time it's likely to take in solving this mystery game. From start to finish the experience can be had in a few hours with the right decisions.

While *D* deserves a great deal of credit for being an innovative and enjoyable game, it's just short of being exceptional in overall effect.
Rating: ★★★

Mortal Kombat II
Publisher: Acclaim
Developer: Williams
There are few examples of success in the history of the videogame industry as remarkable as the *Mortal Kombat* series, and many believe that *MK II* is the highlight of the series to date.

Quite simply put, if you are a fan of the game (and you know who you are), then the Saturn version is everything you can hope for — an arcade-perfect translation — and yet, there is nothing outside of a flashy presentation and a little gore to recommend this game over a million others just like it.

It might seem late to be taking pot-shots at *MK II*, *MK III* and the score of games like it for that matter, but frankly, the game

Saturn's *MK II* is every bit as solid as the arcade version

just isn't that good. The concept is simple, two fighters square off against each other with the promise of blood and guts. The play mechanics are solid, but far from innovative, and the sound and graphics are predictably dull.

While some may argue the character development and the sheer momentum of the series is enough to carry it beyond the ranks of average 2D fighters, the gameplay offers nothing in defense of this game's past or current position near the top.
Rating: ★★★

KICK START

FIFA 96
Publisher: Electronic Arts
Developer: Electronic Arts
There has never been much question as to EA's commitment to add realism to its sports games, and in the latest installment of *FIFA* for Saturn gamers are once again treated to a new level of accuracy. From the stunning graphics to the accurate commentating, this is sure to impress even the most die-hard of soccer fans. While it's true that some tiny details have been left out of this version, such as players' numbers on their uniforms, the game more than makes up for these minor shortcomings with near-perfect gameplay.

FIFA 96 starts off on the right foot by including real teams with real players, there isn't a more apparent example than the actual players — you can actually pick out individuals just by looking at them. The realism doesn't stop there, however. The true measure of this game's greatness is in the ability to execute an actual soccer gameplan with accurate results. And though it's easy to customize your team's play, with all the finesse of true world-class teams built-in to the game, it's almost a joy to see what the computer will do next.

The final reason to love *FIFA* is that amidst all the realism of this accurate soccer simulation, the game still manages to be a great deal of fun. The action is fast and complex and makes for quite a bit of skill to be practiced at every level of the game. Overall, *FIFA* for Saturn is definitely among the finest games for the system.
Rating: ★★★★★
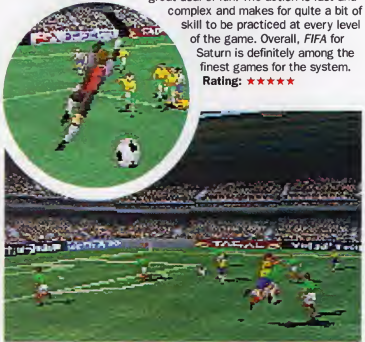
With real teams and rosters, *FIFA 96* is as close as it gets to being in the game. The "Virtual Stadium" is truly immersive

Skeleton Warriors
Publisher: Playmates
Developer: Neversoft
It could be argued that *Skeleton Warriors* is the most 3D 2D game ever. The overall concept is dangerously familiar to the point of being tired and yet the fancy new packaging of this side-scrolling action game is almost enough to count it as more.

Technically speaking, outside of the flying stages (the least interesting parts of the game), *Skeleton Warriors* is no more 3D than the most basic of side-

scrollers (*Sonic*, *Mario*, *Gex*, etc.) but there are just enough 3D effects and graphics to make you wonder from time to time. Employing techniques such as shifting the field of play in and out of the screen to give the illusion of depth and scaling enemies from the background into the foreground, this game teeters on the edge of innovation but never quite makes it to the other side.

From its stunningly beautiful dark and moody graphics to the inventive character designs, *Skeleton Warriors* is a quality

rating 3DO jaguar

product on just about every level. Still, it's difficult to take this game seriously as a 32-bit contender with all of the true 3D competition out there.

In the end, if you simply can't get enough of side-scrolling action games, then you can count on this being one of the best.
Rating: ★★★

Skeleton Warriors' graphic prowess alone is enough to make this game worth noting

3DO

BC Racers
Publisher: Goldstar
Developer: Goldstar
With all the amazing racing games that are showing up on PlayStation and Saturn, what could 3DO do to compete? Hopefully, BC Racers wasn't its attempt because it's possibly one of the worst racing games we've seen in a long while.

You choose from six different cartoony "bike 'n' riders" and race them through eight heats of competition. You race at night through deserts, jungles, swamps, blizzards, caves, and volcanoes. The idea for a cartoon racer isn't a bad one, it's in the execution where the fault must be placed. Racing the bikes is just mindless, all you do is press the gas and use the controller to turn — no power slides and real sloppy control. Perhaps the variety of courses could make the game interesting? Not so. The courses weren't created with much care and are really ugly. The best example of a dreadful course is the second one that has you driving at night — you can't even

BC Racers' dreadful graphics on this game make it impossible to determine where you're going

tell the difference between the road, the edge, or the bikes.

Three years ago on a 16-bit machine BC Racers would've been a fine game, but if 3DO wants to be considered a next-generation machine, BC Racers is not the kind of game the system needs to release. If you're dying for a 3DO racer, The Need For Speed, Road Rash, in fact, any other game would do you better than this.
Rating: ★

Primal Rage
Publisher: Time Warner
Developer: Time Warner
More than a year ago Primal Rage was a massive arcade hit; it was the combination of dinosaurs, blood, and sharp graphics that made it so popular. Since then, there has been a Genesis, Super NES, PlayStation, Game Boy, Game Gear, and now a 3DO version. One thing that has been made very clear about Primal Rage is that the fighting just isn't very deep; plus, the graphics aren't impressive anymore, and the whole game has grown tired.

Primal Rage's dinosaurs and blood may be sure sellers in the arcade, but more gameplay, fighting depth, and strategy is required for home gamers

3DO's version does feature graphics on par with the arcade version and has kept the title's great Jurassic sound as well. But when it comes to the fighting, the depth and strategy just isn't up to the competition, and the once-exciting idea of fighting dinosaurs has worn off. Comparing Primal Rage to the latest batch of 32-bit fighters (Virtua Fighter 2, Toshinden 2) really shows how dated the once graphically impressive game has become.

Still, because of 3DO's lack of good fighting games, Primal Rage is the second best fighting game on the system — behind Super Street Fighter 2 Turbo.

And just like the dinosaurs, it's obvious that Primal Rage's time has come and gone.
Rating: ★★

Jaguar

Atari Karts
Publisher: Atari
Developer: Atari
Aside from the fact that Atari Karts is a shameless knock-off of Nintendo's Super Mario Kart, it's one of the better games in the Jaguar library. While the game is not likely to appeal to everyone, especially more mature gamers, it does have a certain charm that makes it hard to avoid.

Racing a go-kart around a slough of simple little tracks with six other racers hot on your trail may not sound like the time of your life (and in all fairness it probably won't be), but it is strangely addictive. Lacking the sophistication of today's realistic racing games, Atari Karts is not meant to impress, but rather to entertain. This it does well.

The down side to Atari Karts is that there isn't more to it. Sure, racing around the different tracks is fun and picking up icons along the way peppers the action a little, but once you've seen a few of the tracks, there's not much left to surprise. Each track is visually different, but most handle and feel the same and the competition against the computer never really changes.

Atari Karts is a shameless knock-off of **Super Mario Karts**

Still, if you're looking for a quick racing fix without too much by way of realism, Atari Karts just might be the way to go.
Rating: ★★★

Fever Pitch Soccer
Publisher: Atari
Developer: US Gold
While it would be impossible to honestly say that Fever Pitch Soccer is an exceptional soccer game on any one level, it is more than safe to say that the game does most things well. What that means is that while the title's visuals aren't exactly breathtaking, the graphics are big enough, the field is the right color green, and the stadium is reasonably convincing.

It also means the gameplay in Fever Pitch Soccer is fast, responsive, and, for the most part, in tune with the rules and general procedures of soccer. There are shortcomings when it comes to fouls and defensive strategies, but in general, things are as they should be.

What's missing from Fever Pitch Soccer is that extra feeling of realism you'll find in a game like FIFA. We're not meant to find realism in the special "fantasy" plays of the "star" players, like impossibly angled shots, but beyond these quirky additions to the mix, this game has a definite lightweight feel in its speed and the size of the playing field.

Not exactly the game for soccer idealists, Fever Pitch Soccer is fun, but it's a little on the frivolous side.
Rating: ★★★

Fever Pitch Soccer attempts to offer a realistic soccer feel

Supercross 3D
Publisher: Atari
Developer: Tiertex Limited
While the idea seems likely enough to be entertaining, — and, in what is an impressive feat in and of itself — Supercross 3D manages to eliminate most of the raw potential of this fabulous sport.

From the very opening seconds of the first practice round the first thing you will notice is an extremely choppy delivery and a thoroughly mediocre look. While these are probably forgivable, the insane choppiness is not. The

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Jaguar

DESCENDING

Missile Command 3D
Publisher: Atari
Developer: Atari

There is no doubt that *Missile Command* deserves to be mentioned in the same breath as *Space Invaders* and *Pac-Man*, and most gamers will remember fondly that great track-ball control. Sometimes things are best left to in the past, however, and *Missile Command* may well have been one.

Originally planned for use with Atari's recently canceled HMD peripheral, *Missile Command 3D* comes up a little short in its expansion of design. This time, just as in the original, your mission is to protect a small pocket of cities on the ground but this version is set in a 3D playing field. The only problem is that once you get beyond the novelty of the game being in 3D, it's still the exact same as the original. And after a few rounds, it grows tiresome.

Offering the original *Missile Command* and a second 3D version called *Virtual Missile Command*, which is perhaps the best of the three, the game tries to cover all the bases, but remains lacking in its addictive quality.

Perhaps if the gameplay had been built upon to an even further extent, the game would have more of an impact, but as it is, there's just not much to get excited about.
Rating: ★★

The original (top). The newer version has a convincing 3D feel, but it's just not enough to take the game to a new level

Sierra's *Police Quest: SWAT* gives you the unique opportunity to play the role of a sniper

Angeles Special Weapons And Tactics team. As you train and learn, you'll go on call-ups — those civil disturbances that require special attention — such as a hostage situation.

While it sounds fun, *SWAT* runs into trouble in the actual implementation of these missions. Most of your job is to follow the instructions of the Element Leader. That should be simple enough, but many times the commands are ambiguous at best. In some situations, you'll find that even though you thought you did what was right, you'll still receive a reprimand from your sergeant, with absolutely no explanation of what you did wrong.

Even so, Sierra has managed to fit a lot of information into one package. The game teaches you a lot about police procedure and the inner workings of the SWAT team. That digitized video succeeds in bringing the situations you deal with to life, although the acting is weak, at best, in several places.

All in all, this is a decent attempt at a police simulation, but your lack of control leaves much to be desired.
Rating: ★★

---

introduction of other racers makes matters worse, and confusing perspectives and severe slow-down problems seal the lid on the coffin. In what is supposed to be a very fluid and strangely graceful sport, this title does very little to capture the true essence of dirt-bike racing.

Not everything about *Supercross 3D* is tragic. The tracks are well designed and bike customization is nicely presented, but these elements aren't enough to make up for its gameplay. The game could be greatly improved with smoother animation, to say the least. But for now, it's difficult to find a star small enough to rate this game.
Rating: ★

***Supercross 3D* isn't the graceful experience it was meant to be**

PC

Havoc
Publisher: Reality Bytes, Inc.
Developer: Reality Bytes, Inc.

At first glance, *Havoc* appears to be nothing more than a combination of *Terminal Velocity* and *Spectre VR*, but once you start playing you'll realize there's quite a difference.

The territories of the Earth are split up into various factions; those who can conquer whatever land they can will grow in power, with their ultimate goal to overthrow the Tyrakian Overlord. There's not much of a plot, to be sure, but it provides enough reason to blast everything in sight. All of the action takes place on the ground, and geographical location plays a important role in establishing a successful strategy.

The true shining point of *Havoc*, however, is in its multiplayer features. Right from the box, the game comes with two discs so you can play with at least one other person. Not only that, but if your friend has a Mac, it's a cinch to play a networked

game between the two platforms. With room for up to 16 players using either Macintosh, Windows 95, or both systems, *Havoc* could be one of the best titles available for pure multiplayer action.
Rating: ★★★★

Police Quest: SWAT
Publisher: Sierra On-Line
Developer: Sierra On-Line

In *Police Quest: SWAT*, you play the newest member of the Los

SkyBorg: Into the Vortex
Developer: Fringe Multimedia
Publisher: Skybox International

Skyborg is an example of every thing that can go wrong when a
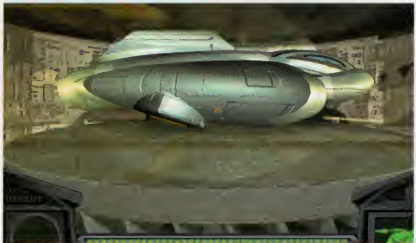
For this ship to fly in *SkyBorg*, you'll replace several broken components

PC

HOUR FAVORITE

Chronomaster
Publisher: Capstone
Developer: DreamForge Intertainment

Chronomaster is a game about immortality, and the course of human nature when death is not truly considered. Other than having a rather deep premise, the game goes a long way in showing what a good graphic adventure should be.

The story was co-written by Roger Zelazny, an award-winning science fiction author. The plot is not the typical adventure fare, instead it revolves around the concepts of immortality, universe construction, and the nature of time itself. Graphics are also superb — the 3D renderings are remarkably detailed while still running well on slower systems.

Even with all of this going for it, *Chronomaster*'s interface is what really shines. Choosing to perform an action is as simple as hitting the right mouse button a few times, and if you pull down a quick and easy menu bar, you instantly have access to your special utilities and inventory. After a while, you begin to realize you're not thinking about how you're playing, you're just playing.

The voice acting is much better than usual, starring Ron Perlman (from the "Beauty and the Beast" television series) as the main character, and "Star Trek: The Next Generation" star Brent Spiner. Along with Lolita Davidovich as a rather uppity computer AI, there's some really entertaining dialogue. Unfortunately, the entire game isn't cast with actors of this caliber, and there's quite a few painful moments as well.

All in all, *Chronomaster* is a fine addition to the graphic adventure genre. There's a great storyline to keep players interested, the puzzles tend to stay in the medium difficulty range, and there's plenty to see and do. Overall, it's an excellent step forward for both DreamForge and Capstone.
Rating: ★★★★

Rene Korda runs into interesting folk as he travels around saving worlds. These Jinn will need their hunger satisfied before getting out of Korda's hair (inset). Watch your step with the Council of the Wise, they're as stupid as they are ugly, and quite lethal

PC

ABOUT TIME

Some of the puzzles you'll face will pit you against Stauf himself, such as this race to control a mechanical mouse

There are many details in *The 11th Hour*, as this spooky lab shows, replete with bloody operating table. Don't ask what the stirrups are for, you don't want to know

The 11th Hour
Publisher: Virgin Interactive Entertainment
Developer: Trilobyte, Inc.

The 7th Guest was a strangely successful game that was little more than puzzle solving and movie watching. Now the long-awaited sequel, *The 11th Hour*, continues the story of Stauf and his spooky mansion. Unfortunately, the game is still little more than solving logic puzzles and watching video clips.

If you're into that kind of thing, that's fine. You'll probably get a kick out of the endless puzzles and cryptic clues, the only purpose of which is to lead you further into the story. Careful though, if you have anything less than a Pentium, you can expect to do a lot of sitting and waiting. Even if you have a powerful machine, don't even expect things to flow as smoothly as *The 7th Guest* did on a 486/33, because it won't. Although Trilobyte has added some useful conventions, such as hot spots that will flip you 180° in the virtual reality mansion, you should still expect to do a bit of wading through endless passageways and rooms to find the next puzzle or clue.

If you loved *The 7th Guest*, then you'll love *The 11th Hour* because they're basically the same game. Don't expect much difference in gameplay, or even plotline. Stauf still mocks you repeatedly as you wander around the environments, and even the music is the same theme, played over and over. Of course, if you were bored by the first installment of the Stauf saga, you should simply avoid *The 11th Hour* altogether.
Rating: ★★

Sure, there are cheaper PC, Mac, and 3DO game controllers. But if you're ready to get serious, you need the high-quality, built-to-play-rough peripherals from CH Products.

When you're ready to get serious, you're ready.

Our joysticks, throttles, flight yokes, rudder pedals, and other controllers are born in the USA, and made to take the heat of any battle, race or game you throw their way. So put on your game face, get down to your computer dealer and grab the game controllers made for serious players.

FlightStick Pro (PC Mac & 3DO)
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F-16 FighterStick (PC & Mac*)
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F-16 FlightStick
Pro Throttle (PC & Mac*)
CH Throttle
Virtual Pilot Pro (PC & Mac*)
Virtual Pilot
Trackball Pro (PC & Mac)
Jetstick (PC & Mac)
Gamecard 3 Automatic

*Coming soon. First Quarter 1996.

PC

BUZZ OFF

The Hive
Developer: Rainbow America
Publisher: Trimark Interactive

No one could say that *The Hive* isn't a nice looking game — the graphics are stunning and the detail is superb. Visuals aside, however, the game is about as much fun as fishing with a broom.

If you try playing this one, get used to seeing the same thing over and over again because the game's all the same from start to finish. The tenuous plot — a storyline only devised to provide hours of maniacal trigger-pulling — sounds like something taken from a second-rate sci-fi novel. You have to protect the galaxy from the Mob, which is trying to use ancient genetically engineered creatures to create an incredibly fatal toxin to use against mankind. Oddly enough, it seems the only way to do this is to blow up anything and everything in sight.

At its heart, the game is a rail shooter — one of the most noninteractive action genres around. True, this one has things that *Wetlands* and *Rebel Assault 2* don't, like the panoramic 360° field of view, but in the end, the only time the game feels interactive at all is in missions in which you hit the second joystick button to perform a secondary task, like hitting your thrusters to glide over mountaintops.

This may be one of the first games to use the full power of Win 95 as a game platform, but let's hope it's not indicative of the platform's future.
Rating: ★★
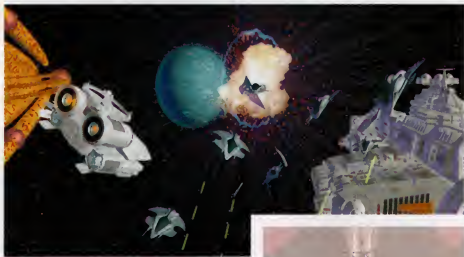
The explosions look really good in *The Hive*, a game made exclusively for Windows 95 and using many of the operating system's capabilities (top). One of the many objectives in Trimark Interactive's new title is to take out this giant generator (right)

---

computer game is based on a series of collectible cards rather than a solid game concept.

The basic storyline is that a professor has discovered a way to prevent the overpopulation of the Earth — send people into the Microcosm. His invention, the Torus, is starting to act up. Now he's been kidnapped, and it's up to you, his faithful cybernetic assistant, the SkyBorg, to save him and the invention.

The game is mostly centered around finding things and using them somewhere else. The worlds of the microcosm are frozen in stasis, so all of the inhabitants of the universes you explore are frozen in 2D form (hence the use of the trading cards in the game).

The game runs under Windows, but it's not optimized

for Windows 95. Even on a 486/66, it runs slow. You have to do a lot of clicking to travel from place to place, which grows old fast. Even though the game looks great, it moves about a quick as a pregnant whale, and after a few hours going around in circles, it's not going to hold much interest.
Rating: ★

Terminator: Future Shock
Developer: Bethesda Softworks
Publisher: Bethesda Softworks

Powered by Bethesda's X-ngine, *Terminator: Future Shock* is impressive in its ability to immerse the player into the post-apocalypse world of "Terminator." You have 360° of movement around you, including straight up

and down. You can shoot and destroy anything you see, and the levels are often wide open landscapes you can explore, rather than proceed linearly through maze-like complexes.

The complexity of control, though, makes the game difficult to play. It takes a while to get the hang of the interface — you control forward and back movement with one hand and your orientation with the mouse or joystick. There are also several keys that perform important functions, like opening doors, that are not easily accessible without moving your hands from the movement keys. Also, the color palette is so dark that it is hard to see where your enemies are until they're right on top of you.

Terminator: Future Shock is pleasantly different from its *Doom*-ish counterparts. When it comes down to pure playing satisfaction, the difficult interface and unclear graphics make it more frustrating than fun.
Rating: ★★

Thexder
Publisher: Sierra
Developer: Sierra

Those of you who were fans of the original *Thexder* will want to check out Sierra's all-new remake of the original shooter. *Thexder* for Windows 95 does an admirable job of using the multitasking environment, with several resizable
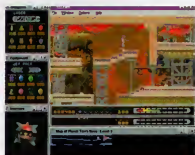
With all of its windows, *Thexder* is still just a platform shooter

windows for all of the game's equipment, and, with DirectPlay, hooking up with friend is a cinch.

Of course, the game is still an average platform shooter, but when you start using some of *Thexder*'s more advanced features, like the ability to transform into a jet-fighter, there are puzzles that can be fairly entertaining and challenging. Sadly, each level is small, so there's not a whole lot that will leave you stumped for long.

The graphics look great for Windows 95. If you run it on the minimum system requirement (a 486DX2/66 with 8 MB RAM), however, *Thexder* looks like he's running with magnetic boots on, and the enemies come at you so slowly it's hardly a challenge to pick them off before they get too near. That's OK if you're not good at platform shooters, but your replay value is practically nil.
Rating: ★★

Terminator: Future Shock is packed with interesting and weird details

Virtual Karts
Publisher: MicroProse
Developer: MPS Labs

Virtual Karts markets itself as a go-kart simulation. It resembles the cartoonish Super NES' *Super Mario Kart* far more than a serious sim like *NASCAR Racing*, however. While there are a good amount of adjustable variables for you to play with, most of them unfortunately have to do with the color of your outfit and the shape of the chassis on your kart. The only factors that really effect your race are the type of engine you use, and the hardness of the tires from which you choose. And, that there's only three choices in either category.

On a positive side, there's a few race tracks from which to choose. Sadly though, while each one has its own style, after going around for a few laps, the novelty quickly wears off. The end effect is to create a racer with a far more arcade-like feel, rather than a true sim of a high-speed go-kart race.

This half-and-half approach to the go-kart sim was a mistake. It would have been a much better game if MPS Labs would have committed to the arcade quality and thrown in a few power-ups to supercharge your kart along the way. At the very least, it would have made things interesting.
Rating: ★★★

The high resolution graphics in *Virtual Karts* try to make up for a lack in options and fun

Warhammer: Shadow of the Horned Rat
Publisher: Mindscape, Inc.
Developer: Mindscape, Inc.

By portraying the life of a mercenary captain in a magical fantasy setting, *Warhammer* delivers a unique strategic challenge. But with the game's awkward interface and drab graphics, you may find that you have to work at enjoying it.

The majority of the game centers around gaining troops to add to your army, and earning money so you can gain more troops. You take on a series of jobs, and, depending on how well you do, earn experience and gold. Battles take place in realtime through a set of icons. There's

not a lot of precision control of your units, but the 3D battlefields make for some thoughtful planning of strategy. There's plenty of magical items to find that'll boost your army's strengths, as well as cause damage to your enemies.

Warhammer certainly isn't the prettiest game around, and, even running under Windows 95, it's certainly not speedy — expect to be patient with loading times. There's plenty of strategy for those willing to look for it, but ultimately, if you want to see something with more action, you'll need to look somewhere else.
Rating: ★★★

Much of *Warhammer* is played with this interface, using buttons to access to troops, spells, etc.

Williams' Arcade Classics
Publisher: GT Interactive
Developer: Williams' Entertainment

If you really think about it, the age of *Joust* and *Defender* wasn't all that long ago in the scheme of world history. Yet playing old titles really shows you how far gaming has come. From one-dimensional shooters like *Defender* to the FMV bravado of *Wing Commander IV*, things sure have changed.

If, however, you like the way things were way back in the early '80s, Williams' Entertainment has a treat for you. Six of the greatest arcade classics are now all packaged together on one CD-ROM. *Defender I*, *Defender II*, *Joust*, *Bubbles*, *Robotron*, and *Sinistar* are all here, and they play exactly like the originals. The sounds, the graphics — even the animation the arcade versions showed when no one was pumping them full of quarters — are the same.

Be warned, though, *Sinistar* is no *MechWarrior 2*, and *Bubbles* grows old quickly. These games are fun to play, but only for about a half hour. After that, the urge for *Warcraft 2* will most certainly win out over *Robotron*.
Rating: ★★★

Zone Raiders
Publisher: Virgin Interactive Entertainment
Developer: Image Space, Inc.

Zone Raiders delivers high-speed futuristic racing as it should be — fast and furious with a lot of power-ups and plenty of variety.

After a nuclear holocaust, there are two types of people: the poor and the rich. As a Zone Raider, one of the poverty stricken, you'll race a variety of hovercars though a multitude of arenas, from decimated city streets to guarded power stations, in a quest to retrieve various objects. The ultimate goal is the liberation of the oppressed by finding transportation to the

Action comes fast and furious as you gather items in *Zone Raiders*

Macintosh

KILLER!

SFPD Homicide
Publisher: 3 Prong Plus
Developer: InterWorks

Typically, the problem with FMV mystery games is the restrictive nature of the format and interface. Inevitably, you'll have a question you'd like to ask someone about someone else — and something they were likely to have been doing at some specific time — but you simply don't have the option to do so. *SFPD Homicide*, on the other hand, is not only equipped with a user-friendly interface which enables you to cross-reference clues, statements, and test results, but the game's two discs are filled with enough video sequences to accommodate even the most rambling of investigations.

Surprisingly enough, another aspect of the title's charm is the lack of a slick Hollywood-style production. Maintaining a simple and professional quality throughout, the game's dry presentation adds to the sense of realism. A final touch that turns up the excitement level is the inclusion of a time limit (based on a two-week work schedule). Finding a suspect, building a case, and then collaborating with the D.A. to make the case stick is a hearty request in the time allotted and is likely to have you reworking the case a few times before justice is served.
Rating: ★★★★

By accessing the map of San Francisco you can travel quickly to any appropriate location in the city. As the game wears on, more and more locations will be available (top left). Who said being a detective was all fun and games, huh? Well, at least you get to look at cool people with strange eating habits and a bad complexion (above)

mythical FreeZone, a land free of strife and the influence of the Emergency Containment Organization (ECO).

The plot, fortunately, is secondary to the action. *Zone Raiders* is that rarest of animals — a first-person racer that truly conveys a sense of speed. There's loads of different weapons to grab, as well as some truly innovative power-ups, like the jet pack and laser amplifier. Best of all, there's even secret passageways on some levels. All that mixed in with four-person network play makes *Zone Raiders* an action game of choice.
Rating: ★★★★

Macintosh

Strategic Conquest
Publisher: Delta Tao
Developer: Delta Tao
Long before Interplay, LucasArts, and other hugely successful PC developers got into the game, the Mac had a dedicated cadre of Mac-only game developers. Although most of those developers are gone, a few stalwarts remain, making dedicated Mac games that have a flavor totally their own. Premier among these are Casady & Greene and Delta Tao.

Delta Tao's latest version of its world-conquest strategy game, *Strategic Conquest*, features several updates, including fractal-generated worlds, beefed up artificial intelligence, and updated graphics. Basically the point of the game is simple — conquer cities, build armies, explore the world, destroy your enemies, and enjoy your empire.

Like all Delta Tao software, all of these features are executed impeccably — by gamers, for gamers. So, if you want a strategy game with a low learning curve and plenty of replay value, get this one; we enjoyed it.
Rating: ★★★★

Arcade

Bust A Move Again
Publisher: Taito of America
Developer: Taito Japan
One of the most addictive puzzle games in the arcades right now is *Bust A Move Again*. If you saw the first one, the sequel is just as good (or if you have a 3DO, you could buy it and play it at home). But your skills must include not just speed but pool-style aim and lightening quick reactions to get

anywhere near the highest levels.

The object is to connect three like bubbles together to eliminate the threesome, and eventually to clear the board in the same manner. Along the way your opponent (either the computer or one other player) collects points by connecting threesomes, and in turn sends bubbles over to your side, crowding your slate and hoping to end your game. You, of course, are able to do the same, and the loser is the first one to pile up enough bubbles to reach below the baseline.

One of the more fascinating tricks to master is aiming and bouncing your bubbles off the walls into the right spot. A slight misfire or bad angle can end your game very abruptly. It's fast, fun, and because of the title's bright, innocent looks and unpretentious simplicity, it's almost unfair. Once you've started, *Bust A Move Again* is a habit hard to kick.
Rating: ★★★

Bust A Move Again **is simple and fun, and hey, there's Bub and Bob**

Dirt Dash
Publisher: Namco
Developer: Namco
Following the creativity and expanse of Sega's fantastic line of driving games comes the inevitable response from Namco. *Dirt Dash*, an off-road racing game with a similar look and feel to *Sega Rally*, is that response. It employs feedback steering, exaggerated powerslides, secret passages, and a variety of rugged terrain that challenges the player's control, just like *Rally*.

If it weren't for Namco's uncanny ability to create excellent games, its annoying copycat strategy would really be a negative quality. But it's difficult to see where *Dirt Dash* didn't improve in a wide range of areas over its originator. Where there were three terrains in *Rally*, *Dash* adds dense jungle territory or icy mountain slopes (in which you're forced to steer out of an out-of-control slide); where *Rally* featured two slightly different cars, *Dash* uses three very different vehicles — an off-road

dirt buggy, a revved-up sports car, and a 4X4 truck; and while *Rally* uses an interesting mix of road textures (shifting from dirt to pavement), *Dash* embraces the use of obstacles and damageable cars (neither available in *Rally*).

Essentially, *Dirt Dash* is to *Sega Rally* what *Tekken* is to *Virtua Fighter*, and with its attractive use of the Super System 22 board, light-sourcing and backgrounds, plus the excellent feel of the cars

themselves, Namco has another hit on its hands.
Rating: ★★★★

Dungeons and Dragons 2: Shadow Over Mystar
Publisher: Capcom
Developer: Capcom
Dungeons and Dragons 2: Shadow Over Mystar, the new Final-Fight-style side-scroller and sequel to the early '90s original, is full of the stuff that made the first so fun.

Using the identical engine as

STEP ON IT

Time Crisis
Publisher: Namco
Developer: Namco
Just like an obsessed A-type engineer, Namco has followed the course of its competitor, copying the "model," improving on it, and adding new qualities along the way. In the case of *Time Crisis*, however, Namco's technical precociousness has brought the game to a new technical and gameplaying level above any of its current competitors, namely Sega's *Virtua Cop 2*.

Time Crisis employs a unique foot pedal to move you through the game and to simultaneously reload. In the game, if you run into a gang of assassins, just press the foot pedal down and you'll reload and duck behind crates, or if you're near a bend in a hallway, you'll quickly back up behind the wall. When the wave of bullets halt, lift up the pedal and you'll move into firing range. One bullet will kill you, so the challenge of ducking and hiding increases the title's overall strategy.

By creating this innovative maneuvering technique, in addition to time-based, predetermined path running, providing Story or Attack mode and challenging end-level bosses, *Time Crisis* thrusts the light-gun genre into a brand-new territory — and develops a whole new way of looking at, and playing, the classic light-gun game.
Rating: ★★★★★
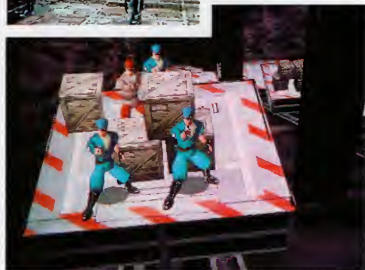
Step on the pedfle and avoid these oncoming enemies, then lift up to shoot (top). You can use either Story or Attack modes

It's that moment just after you rip it off, when the circuits are still pumping 'cause they don't know what hit 'em, and they've got that expression on their face like "Hey that's my arm!"...the first gush of oil from the open socket...the lights in their eyes going dim...yeah, that's when I know...I'm alive.

RESURRECTION
RISE 2

Organic Virus Derivatives make Lockjaw attack without provocation!

No human being could survive Necroborg's 100,000 Watt Electrical Charge!

Projectile Warfare: Fireball vs. Tetra Basic Acid Spit!

PC AVAILABLE FOR DOS AND WINDOWS 95.
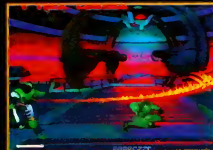
Salvo's Cybernetic Inferno completes a 12 Hit Chaos Combo!

MIRAGE

AKlaim
entertainment inc.

With the success of *Sega Rally* comes Namco's response, the off-road racer *Dirt Dash*

D&D 1, the same Capcom team has maximized the CPS 2 (Capcom System 2), reaching further into the color palette and improving the quality of animation to the level of *Street Fighter Alpha, X-Men: Children of the Atom*, and their ilk.

All in all, the game has bloomed and matured, improving in all areas: there are two new characters for a total of eight (though there are two of each class, totaling 12); each of the 18 stages includes at least four paths per stage, spreading the story path much further to add more depth; there are at least six different endings; there's a surplus of magic items (protective rings, magic rings, boots of speed), and extra character abilities, like fighters being able to find another sword and fight two-handed.

The game is still your basic side-to-side scrolling whack-enemies-and-ask-later action deal, but its appeal has been improved and its potential fulfilled. Digital D&D fans will eat it up.
Rating: ★★★

Konami's Open Golf Championship
Publisher: Konami
Developer: Konami

Oftentimes, the interface of a game can make the difference between mediocrity and greatness. *Konami's Open Golf Championship*, a solid golf sim featuring all of the details and solid gameplay in other titles, is just shy of being good.

As opposed to Sega's 1992 *Super Master Golf* (using a golf club-like lever), or Incredible Technology's *Peter Jacobson's Golden Tee 3D Golf* (effectively using a trackball) which features very accurate and direct ways of translating the human precision needed to simulate golfing mechanics, Konami's joystick presents serious control problems. It's not that you can't play the game, or that it isn't fun, it's just that the control doesn't respond consistently. Close up putts are difficult to gauge not only because the power gauge — very necessary and useful in longer shots — doesn't use a more effective way of conveying the amount of power needed, but because the level of frustration overcomes the joy of playing.

Aside from these serious snares, the title has a cool Advise feature (like a personal golf consultant), four courses (we like Lake Island's short cuts), and the Long Drive Contest and Closest to the Birdy Contest, which break up the monotony perfectly.

This could have been a good game if its control were better, rather than the decent game it is.
Rating: ★★

SORRY!

No new games were made available for review this month on the following systems

Virtual Boy

Neo-Geo

Genesis

Super NES

All The Brutality, Carnage And Senseless Violence Of Darkstalkers.™

Only Darker.

Just when you thought the Darkstalkers had reached their ultimate evil, they're back with a chilling twist. Night Warriors ™ features new secret moves, multi-hit combos, dazzling animation and even shadier characters in the year's most eagerly anticipated release. Now, you'll have a terrifying encounter with 10 of your treacherous favorites while battling for your life with new or previously unplayable characters. So get ready to defend yourself against a world of deadly powers. You might survive to see the light.

NIGHT WARRIORS ™

CAPCOM

rating

32-bit gamer's guide

Your guide to every 32-bit game released so far

Finals roundup is the section of **Next Generation** in which we provide a comprehensive list of all the significant next-generation games released so far (only the "best" 32X games are included due to space constraints. Please note that some of the games reviewed here have been superceded by sequels. In this case, the review score of the original version should be considered out of date.

Also, a rating out of five stars does not give enough information on which to judge a game. If you require further information, back issues of **Next Generation** can be ordered on page 32, or you can consult *NG OnLine* at http://www.next-generation.com/ng/ where full reviews are available.

Where a game name is accompanied by the suffix (Japan), it means the game (at press time) is only available as an import from Japan, and will not work on standard US machines.

TITLE	PUBLISHER	NG RATING
PlayStation		
Agile Warrior	Virgin	★★
A-Train	SCE	★★★
Aquanaut's Holiday (Japan)	ArtDink	★★★★
Arc The Lad (Japan)	SCE	★★★★
Battle Arena Toshinden	SCE	★★★★
Boxer's Road (Japan)	New Corp	★★★
Cosmic Race (Japan)	Neorex	★
Crime Crackers (Japan)	Sony Entertainment	★★
Criticom	Vic Tokai	★★
Cyberio	Interplay	★★★
Cyberspeed	Mindscape	★★★
Cyber Sled	Namco	★★
Cyber War (Japan)	Coco Nuts	★★
Defcon 5	Data East	★★★★
DarkStalkers	Capcom	★★★
Destruction Derby	Psygnosis	★★★★
Doom	Williams	★★★★
Dragon Ball Z (Japan)	Bandai	★★
Gex	Crystal Dynamics	★★★
Goal Storm	Konami	★★★★
Gunner's Heaven (Japan)	Media Vision	★★★★
In the Hunt	Xing	★★★
In the Zone	Konami	★★★
Jumping Flash!	SCE	★★★★★
Jupiter Strike	Acclaim	★★★★
Kileak The DNA Imperative	SME	★★★
Kileak The Blood 2	SME	★★
King's Field	Asciiware	★★★★
Looded	Interplay	★★★★
Metal Jacket (Japan)	Solan	★★
Mobile Suit Gundom (Japan)	Bandai	★★

TITLE	PUBLISHER	NG RATING
Mortal Kombat 3	Publisher	★★★
Motor Toon GP (Japan)	SCE	★★
NBA Jam Tournament Edition	Acclaim	★★★★
NFL Gameday	Sony Interactive	★★★★★
NHL Face Off	Sony Interactive	★★★★★
PGA Tour Invitational '96	Electronic Arts	★★★
Philosoma	SCE	★★
Power Serve 3-D Tennis	Ocean	★★★
Power Baseball (Japan)	Konami	★
Raiden	Seibu	★★
Rayman	UbiSoft	★★★★
Ridge Racer	Namco	★★★★
Ridge Racer Revolution (Japan)	Namco	★★
Road Rash	Electronic Arts	★★★
Shockwave Assault	Electronic Arts	★★
Space Griffon	Atlus	★★
Tekken	Namco	★★★★
Total Eclipse Turbo	Crystal Dynamics	★
Toukon Retsuden (Japan)	Tomy	★★★★
Twisted Metal	SIE	★★★★
Viewpoint	Electronic Arts	★
Warhawk	Sony Interactive	★★★★
Wipeout	Psygnosis	★★★★★
WWF Wrestlemania	Acclaim	★★★
X-Com: UFO Defense	Microprose	★★★★★
Zero Divide	Zoom	★★★
Saturn		
Astal	Sega	★★★
Battle Arena Toshinden	Takara	★★★★
Battle Monster (Japan)	Naxat Soft	★★
Blackfire	Sega	★★★
Bug!	Sega	★★★
Clockwork Knight	Sega	★★★
Clockwork Knight 2 (Japan)	Sega	★★★
Cyberspeed	Mindscape	★★★
D	Acclaim	★★★★
Dark Legends (Japan)	Data East	★★
Daytona USA	Sega	★★★★
Deadalus (Japan)	Sega	★★★
Double Switch	Digital Pictures	★★
F-1 Live Information	Sega	★★★★
Galactic Attack	Acclaim	★★★
Gotha (Japan)	Sega	★★★
Hang-On GP '95	Sega	★★★
High Velocity	Atlus	★★★
Johnny Bazookatone	US Gold	★★★
Last Gladiators (Japan)	Kaze Co	★★★★
Monsion of Hidden Souls	Sega	★★★
Mortal Kombat II	Acclaim	★★★
Myst	SunSoft	★★★
NHL All-Star Hockey '96	Sega	★★
Off-World Interceptor	Crystal Dynamics	★★★
Panzer Dragoon	Sega	★★★★
Pebble Beach Golf Links	Sega	★★★

TITLE	PUBLISHER	NG RATING
Riglord Saga (Japan)	Sega	★★★
Quarterback Attack	Digital Pictures	★★★
Sega Rally Championship	Sega	★★★★★
Skeleton Worriors	Playmates	★★★
Shinobi Legions	Sega	★★★
SimCity	Maxis	★★★
SteamGear Mash	Takara (Japan)	★★
Street Fighter: The Movie	Acclaim	★★★
Tomo (Japan)	Tengen	★★
Theme Park	Electronic Arts	★★★
ThunderStrike 2	US Gold	★★★★
Virtuo Cop	Sega	★★★★
Virtuo Fighter	Sega	★★★★
Virtuo Fighter Remix	Sega	★★★★★
Virtuo Fighter 2	Sega	★★★★★
Virtua Racing	Time Warner	★★★
Virtual Hydlide	Atlus	★★
Virtual Volleyball (Japan)	Imagineer	★
Wicked 18	Vic Tokai	★★★
Wing Arms	Sega	★★★
World Series Baseball	Sega	★★★★
Worldwide Soccer	Sega	★★★
X-Men: Children of the Atom	Capcom	★★★
3DO		
Alone In The Dark 2	Interplay	★★★★
Battlesport	Studio 3DO	★★★★★
Bladeforce	Studio 3DO	★★★★★
BC Rocers	Goldstar	★
Burning Soldier	Panasonic	★★
Bust a Move	Panasonic	★★★★
Cannon Fodder	Virgin	★★★
Captain Quazar	Studio 3DO	★★
Crime Patrol	American Laser Games	★★
D	Panasonic	★★★
Deathkeep	SSI	★★★
Demolition Mon	Virgin	★★★
Drug Wars	American Laser Games	★★
Family Feud	GameTek	★★★
Flying Nightmares	Domark	★★★
FIFA International Soccer	EA	★★★★★
Flashback	U.S. Gold	★★★
Gex	Crystal Dynamics	★★★★
Ghost Hunter	Matsushita	★★★
Guardian War	Panasonic	★★★
Hell: a Cyberpunk Thriller	GameTek	★★
Icebreaker	Magnet Interactive	★★★
Immercenary	EA	★★★
Iron Angel of the Apocalypse	Panasonic	★★
Iron Angel': The Return	Panasonic	★★
Jammit	Street Sports	★★
John Madden Football	EA	★★★★
Killing Time	Studio 3DO	★★★★
Kingdom: The Far Reaches	Interplay	★★
Lemmings	Psygnosis	★★★★

NEXT GENERATION ONLINE

Title	Publisher	NG Rating
Lost Eden	Virgin Interactive	★★★★
Mazer	American Laser Games	★
Mega Race	Mindscape	★★
Microcosm	T&E Soft	★★
Myst	Panasonic	★★
Off-World Interceptar	Crystal Dynamics	★★★
Need for Speed	EA	★★
Panzer General	SSI	★★★★
PGA Tour Golf '96	EA Sports	★★★
PO'ed	Any Channel	★★★★
Primal Rage	Time Warner	★★
Quarantine	GameTek	★★★
Road Rash	EA	★★★★
Rebel Assault	Lucas Arts	★★
Samurai Shodown	Crystal Dynamics	★★★
Scramble Cobra	Panasonic	★★
Seal of the Pharaoh	Panasonic	★★
Shanghai: The Great Wall	Activision	★★★
Shock Wave	EA	★★
Starfighter	Studio 3DO	★★★★
Operation Jump Gate	EA	★★★
Slam 'N' Jam '95	Crystal Dynamics	★★★★
Soccer Kid	3DO	★★
Space Hulk	EA	★★★★
Space Pirates	American Laser Games	★★★
Star Control II	Crystal Dynamics	★★★
Starblade	Panasonic	★★
Station Invasion	Club 3DO	★★★
Super Street Fighter II Turbo	Panasonic	★★★★
Super Wing Commander	Origin	★★★★
Supreme Warrior	Digital Pictures	★★
Syndicate	EA	★★★★
The Daedalus Encounter	Panasonic	★★★
The Last Bounty Hunter	American Laser Games	★★
Theme Park	EA	★★
Trip'D	Wrap	★★★
VR Stalker	American Laser Games	★★★
Way of the Warrior	Universal Interactive	★★
Wing Commander III	EA	★★★★★
Wolfenstein 3-D	Id/Logicware	★★
World Cup Golf	US Gold	★★
Zhadnost: The People's Party	Studio 3DO	★★★

Jaguar

Title	Publisher	NG Rating
Alien vs. Predator	Atari	★★★★
Atari Karts	Atari	★★★
Boldies CD	Atari	★★★
Battlemorph	CD	★★★★
Blue Lightning CD	Atari	★★★
Bubsy: Fractured Furry Tales	Atari	★★
Burn Out	Atari	★★★
Cannon Fodder	Virgin Interactive	★★★★
Checkered Flag	Atari	★★
Club Drive	Atari	★
Daam	Atari	★★★

Title	Publisher	NG Rating
Double Dragon V	Tradewest	★★
Dragon	Atari	★★★
Fever Pitch Soccer	Atari	★★★
FlipOut!	Atari	★★★
Highlander	Atari	★★★
Hover Strike	Atari	★★
Iron Soldier	Atari	★★★
I-War	Atari	★★
Missile Command 3D	Atari	★★
Pitfall: The Mayan Adventures	Atari	★★★★
Power Drive Rally	Time Warner	★★★
Rayman	Atari	★★★★
Ruiner Pinball	Atari	★★★
Supercross 3D	Atari	★
Syndicate	Ocean	★★★★
Tempest 2000	Atari	★★★★
Theme Park	Ocean	★★
Troy Aikman Football	Williams	★★
Val d'Isere Skiing	Atari	★★
White Men Can't Jump	Trimark	★★★
Wolfenstein 3-D	Atari	★★
Zool 2	Atari	★★★

32X

Title	Publisher	NG Rating
Brutal	Gametek	★★★
Fahrenheit	Sega	★★
Knuckles Chaotix	Sega	★★
Metal Head	Sega	★★
Martal Kombat II	Acclaim	★★★
Motocross Championship	Sega	★★★
NBA Jam Tournament Edition	Acclaim	★★★
Pitfall: The Mayan Adventures	Activision	★★★
Quarterback Club	Acclaim	★★★
RBI '95	Time Warner	★★
Shadow Squadron	Sega	★★★
Slam City with Scottie Pippen	Digital Pictures	★★
Star Wars Arcade	Sega	★★★
Super Afterburner	Sega	★★★
Super Space Harrier	Sega	★★★
Tempo	Sega	★★
Virtua Fighter	Sega	★★★★
Virtua Racing Deluxe	Sega	★★★
World Series Baseball	Sega	★★★★★
WWF Raw	Acclaim	★★
Zaxxan's Matherbase 2000	Sega	★
36 Great Holes	Sega	★★★

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corresponding

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Mail bonding

When issue number #1 of **NG** came to the newsstand, it was fresh and so impressive that I felt compelled to write a letter congratulating the editors on the creation that was so desperately needed to the mature videogame player. This letter is to retract anything positive I said to you in that first letter.

Recently, I got issue 13 of **NG**. I ask if this magazine is unbiased: 1) Where did the stupid question of having **Tom Kalinske "admit" that the Super NES is superior to Genesis** come from in **NG 13**'s interview? 2) Where did having Tom Kalinske's admission that Sega could make more money as a software third-party group give **NG** the conclusion that Sega will probably abandon the Saturn in 1996 to be such? Did Tom Kalinske suddenly become the president of an American extension of a Japanese videogame company to CEO of the same company? 3) How is Atari's possible switch from hardware to third-party software company lead **NG** to believe that this has become integral to Sega's future plans? 4) How did **NG** surmise that Sony and Nintendo (or Matsushita only) have become the next superpowers in the videogame Industry in 1996? 5) If Sega is on the second generation of Saturn software and Sony is still at its first generation of its software, then what is taking Sony so long to bring out its second generation? And why is **NG** quick to point this fact out, but only using it to defend the Sony PlayStation? Thanks for nothing.

Ned, St. Peter's College

Don't let your own prejudices cloud your analyses. Here are the answers to your questions in the order they were asked: 1) It was a compliment, showing how Sega has triumphed in the past with inferior hardware. 2) Wake up and smell the coffee. Business is all about making money. And if Sega thinks it can make more money as a third-party developer, it may jettison its hardware business. 3) Because Atari's actions are a model for a company whose hardware is not selling well. And history tends to repeat itself. 4) First, we have not said that definitively, we've theorized that this paradigm could happen (and there's a difference). 5) Because Sony's first-generation software is selling, so it has no reason to reveal its second-generation software yet.

I recently went into a store and saw a massive library of Saturn titles on sale, including **Virtua Fighter 2 and Sega Rally**, yet when I received **NG 12**, you said both games were still in development. This is one of the few mistakes I have found in **NG**. I want to believe this was an accident, but I can't stop thinking that you are in

Next Generation reviews only 100% finished games, unless it is specifically stated otherwise

Sony's back pocket. What's the deal?

**Jason Dickinson
Plattsburg, MO**

Typically, we write each issue two months before it hits the streets. We attempt to anticipate whether the software we are writing about will be out when the issue comes out, but sometimes we are wrong. In this case we weren't, as you can read on page 48 of the Hardware War feature, "...and Virtua Fighter, only 70% complete (at the time of going to press) is already the best looking Saturn game to date." But sometimes (for space reasons) we don't. It certainly wasn't an attempt to sabotage Saturn, although your letter does show how people use anything to confirm their suspicions when looking to prove a bias.

My letter is about **false advertising**. In one of the recent ads for VF2 for Saturn, they have been showing pictures of the arcade game, not the Saturn game. I recently bought VF2 and to my surprise, the backgrounds are 2D, not 3D. In the Saturn ad with the rapper, Ice Cube, it shows the huge stone bridge in the background of Shun's stage. In the Saturn version, the ring does not even move down the river! On the back of the box it shows pictures of the arcade, too. I don't believe I got my money's worth for this game.

**Eric Seat
Leesburg, VA**

According to Sega, the reason the background graphics aren't up to arcade snuff is because they ran out of time before the

product was released. As for the ads, typically, the ads need to be done far before the game is ready, which is probably why Sega used arcade shots. Dishonest? Maybe. As for not getting your money's worth, come on, how much do the backgrounds have to do with the game? The gameplay in Virtua Fighter 2 is dead on, and the characters look great.

Here's a new one for you (hopefully). Are there any plans for a 32-bit **volleyball videogame?**

**Kevin Kassel
Lehi, Utah**

To the best of our knowledge, there are no volleyball games in development for US release. There was a Japanese volleyball game released for Saturn (Virtual Volleyball), with national teams, but it was extremely lame, and chances are it won't come out here. Sorry.

Will **Namco's [Super] System 22 board** enable easy translation to Sony's PlayStation as its PlayStation-based System 11 does, or is System 22 too advanced for PlayStation?

**Anthony Savage
Woodstock, GA**

If AM2 can convert Virtua Fighter 2 from the Model 2 board to the Saturn, Namco can convert games from the Super System 22 to PlayStation, but conversions certainly will be more difficult than from the System 11 board.

Thank you so much for running such extensive coverage of the Ultra 64

corresponding

in the Feb. '96 issue! Observant readers will witness the famous "Nintendo B.S. Engine" at full throttle. Remember the Super NES-CD? How about *Killer Instinct* as a release title for the Ultra 64? Well, heeeeeeeeere's Ultra! The article with George Zachary (I know, he's with SGI) is especially enlightening. It's fascinating to see a marketing puppet performed with such charm by Nintendo and SGI! This man actually said "I've seen people draw trees that look realistic with a total of four polygons." Um....I know the trees he's talking about. They are in the standard SGI-small town demo and they look like, well, really high-quality, paper cutout trees. This notion of, in your own words, "Less is sometimes more?," is quite ludicrous when you are trying to create "virtual worlds." Someone in the virtual reality field once said, **"reality is 5,000,000 polygons."** The true, "Reality Engine" is that Nintendo is cutting corners left and right to get that system in under $250.

No CD-ROM drive only drives the point further home. The entire world has embraced CD-ROM as the medium of choice for entertainment delivery. Nintendo's argument about CD-ROM being unsuitable for games is ridiculous, as you noted. They've been working on this thing for 2.5 years now and this is the best they can do? One and a half games to show? If this is considered "ultra," someone please call Webster's and change the definition.
Macmidi441@aol.com

Interesting observations, but you're in the minority. Most of the letters we've received about Ultra 64 are very enthusiastic about its chances.

I was wondering why PC game makers never make an "epic" game — one that just goes on and on and **takes forever to beat?**

I know that there are some pretty long games out there, but all of the games that I have only take me from a couple of days to a week to beat.
Mark Melnyk
Baltimore

You raise a very good point, and there's probably several reasons for why this is a current trend.

First, not everyone lusts after long-term gameplay, instead opting for titles that give them the thrill of victory after only a minimum of effort.

Second, an epic game takes much longer to design, increasing both the amount of money and amount of man-hours that go into development.

Finally, if you have a game that you really like a lot and play all of the time, you're probably not out buying more software, and that doesn't make anyone who's selling games all that happy.

The best place to look for long-term gameplay has always been in role-playing games and multiplayer strategy games. The best RPGs out there right now for long-term play are all pretty old, but here goes: We recommend *Ultima III*, *IV*, and *V* for a start, the *World of Xeen* installment from New World Computing, and both *Arena* and *Daggerfall* from Bethesda as some excellent long-term play choices. Strategy games that give great long-term value if you've got a few friend willing to play with you are *Pax Imperia II*, *Command & Conquer*, and *Warcraft II*.

A final tip: Don't cheat! If you go online and grab a handy character editor or walkthrough, it may end up ruining your gameplay experience by enabling you to finish the game too soon, without exploring all the options.

What happened to the **Pippin** by Apple? Is it really a game machine and if not, what the heck is it?
Eric Houghland
igv@pacificrim.net

The Pippin is on track for release later in 1996 in Japan, and Bandai is allegedly releasing it in the US later this year as well. It isn't going to be a game machine any more a than Mac is — the Pippin is basically a Mac that uses a TV as a monitor, and has the OS on the CD software rather than on a hard drive.

The market for the Pippin is less than apparent, but a preproduction unit was on display at January's Macworld

Expo in San Francisco. As for a guide to gaming terms, check out our extensive Next Generation Lexicon article in our March issue (**NG 15**).

I just read through issue 13, and I couldn't be more disappointed. It seems obvious to me that you guys are PlayStation biased. The first thing you see on the cover is *Ridge Racer Revolution*. This might be a great game, but no racing game other than *Sega Rally* should have been on the cover of any magazine. It is **by far the best home racing game.**
KingCee@aol.com

What is this with **the Sega Rally review?** Are you giving into the pressure from the Saturn owners? You've been tossing around your five-star rating a little too easily lately. But, hopefully you'll come back on the rating of *Sega Rally*.
**sabotage@THEDEN.COM**

KingCee, meet Sabotage. Sabotage, meet King Cee. We invite you two to fight it out deciding whether we're biased toward or against either unit. And that is absolutely, categorically, 100% certainly the last letter about being biased that we will ever print. Probably.

Fasten your seat belts. We are experiencing turbulence. I purchased *Bladeforce* for my 3DO and 20 minutes into the game **I got motion sickness.** Being a glutton for punishment, I was playing the next day. Ten minutes into it and I was sick again.

Here is what I've learned about videogaming motion sickness, I'm not alone. The claim made by 3DO's about losing *Bladeforce* beta testers due to motion sickness is true. A big-screen TV makes it worse because more of your vision is consumed by whirling and flying polygons and pixels.

Games that twist and twirl the horizon in an effort to simulate right or left motion tend to cause motion sickness. This is why *Bladeforce*, *Twisted Metal*, and driving in the Bowl in *Destruction Derby* make me ill. Frame-rate

and graphic resolution make a big difference. *Bladeforce* is hazy, *Twisted Metal* uses mushy grainy graphics and *Killing Time* has a choppy frame rate. All of these are ingredients for motion
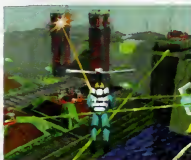
Bladeforce evidently made many of 3DO's game testers (and a Next Generation reader) ill

sickness. Even in reality, we tend to blink when we jerk our heads to the right or left. I'm not sure if simulated blinking is the answer, but it's something to think about.
Alan D Chaney
BVBM31A@prodigy.com

You bring up a good point. If playing certain types of 3D games makes you sick (as is the case with one editor at **Next Generation**), stay away from them. It can be a crap shoot, though. *Doom* may make you hurl, while *Destruction Derby* is fine. We suggest adjusting the view to allow maximum display of a stationary background to avoid problems. For more on videogames and health concerns, check out **NG 10**'s feature Do Videogames Screw You Up? But it must be noted, the occasional bout of motion sickness is usually testament to the realism of a game.

Sorry to be a super-geek, but in February's Arcadia, Marcus Webb was talking about Taito's landmark arcade hit in the early 1980s, and he said the game was *Asteroids*. **Asteroids was from Atari,** *Space Invaders* was from Taito.
Jessica Byrnes
Allston, MA

You know, you're right, and Marcus was wrong. The correction has been noted, and Marcus has been shot. Actually, that's a lie. But we shouted at him for a bit. **ng**

Next Month
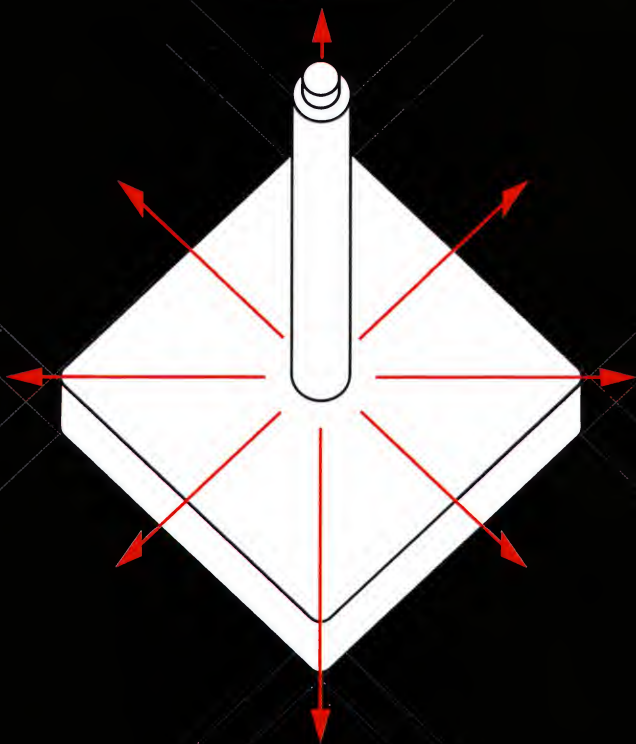
Control

A game is judged on how well a player gets to interact with the software.
It's judged on the strength of the communication between human being
and computer. And the medium for this communication?
The humble joypad or joystick.

A revolution in game control is coming. Next month, a **Next Generation** report.

Next Generation #17
on sale April 23, 1996.

Smart readers have already subscribed. To find out how you too can save money
and guarantee your copy, turn to the insert between pages 32 and 33.

theorizing

The way games ought to be ...

Hi-octane game theory by **Chris Crawford**

Interaction is a process involving listening, thinking, and speaking. Videogames are good at speaking, but how come they're such lousy listeners?

One of the more vexing problems in interactive design arises from the fundamentally asymmetric nature of the relationship between human and computer. All of our existing models of interaction presume interaction between humans, who are fundamentally symmetric. For example, my standard interactive model is the conversation between two people. Note, however, that a conversation creates a balanced relationship between both parties. I speak in the same language that you use; I listen with the same ears and in much the same fashion. A conversation is a symmetric process involving two equal partners. If we remove the symmetry by giving all or most of the speaking to one person, then the event is no longer termed a conversation; it is a lecture. And we all know that lecturing somebody during a conversation is rude, because it denies the equality of the listener.

But the relationship between human and computer that we establish when we design interactive entertainment is fundamentally asymmetric — it is not equivalent to a conversation between two human beings at all. The computer is not the same thing as a human being. This asymmetry constitutes one of the major elements that impacts the design of games.

First, let's recite some of the asymmetries at work. My standard definition of interactivity (a sequential process in which each interlocutor alternately listens, thinks, and speaks). What are the asymmetries in listening, thinking, and speaking?
Listening: The human listens through his ears and eyes, while the computer listens through its mouse and keyboard. The human has a high capacity for information absorption. Both the eye and the ear have a great deal of preprocessing software that makes possible high-bandwidth information

reception. We're talking the megabytes-per-second-of-information reception capability in your average human being. The computer, by contrast, has lousy listening capabilities. The average person can, with mouse and keyboard, enter only a few bytes of information per second.
Thinking: Here's another area where the human outstrips the computer, but not so flagrantly as with listening. The computer can indeed think, and in some dimensions of thinking — such as arithmetic computation

> **Computers have lousy listening capabilities. The average person with mouse and keyboard can enter only a few bytes of information per second**

— greatly outstrips the human. But in a great many other areas, such as pattern recognition, the human has a huge advantage over the computer.
Speaking: Here is the one area where the computer approaches the capabilities of a human. At my best, talking and gesticulating, I'm able to generate MBs of information per second. A computer can't reach that output rate yet, but it's getting close. A fully animated display with sound or music gets us up into the MBs/second range.

Considering these three together, it should be obvious that the greatest source of asymmetry lies in the area of listening, and the least lies in speaking. This explains, to some extent, the design style of so many games currently on the market.

Most listen poorly and speak well. The typical product gives the user very little to say or do, and then hoses him down with MBs of audio-visual extravagance. Thus, despite my incessant carping about excessive speaking and insufficient listening, the current level of interactive design reflects the asymmetric strengths of the computer.

But we must remember that there are two ways of looking at the problem of asymmetry: the ideal and the "grain of the medium." The ideal represents what we really ought to do; the grain represents the natural strengths and weaknesses of the medium. Good design pursues the ideal while acknowledging the grain. The ideal of good interactivity is equal emphasis on listening, thinking, and speaking. After all, the quality of a conversation is based on the extent to which each of the conversationalists listens, thinks, and speaks. If either person puts more emphasis on any one these areas, then the conversation as a whole suffers. In the same way, participants in any interaction must focus equal energy on all three areas to do the best possible job.

But we must also acknowledge the pragmatic issues here: the computer is a lousy listener and a fascinating talker. It is easy to get the computer to speak well and very difficult to get the computer to listen well. Therefore, we must expend more effort on the problems of designing good listening than on designing good speaking. This is the only way to achieve an effective compromise between the pragmatic considerations and the design ideals.

How well are we doing? Let's examine the success the industry has had in designing good listening. I have to say, we're doing a terrible job! A good way to assess the quality of the listening experience is to translate the commands of the game into verbs. For

example, *Doom* offers just a few basic verbs: turn left, turn right, go forward, go backward, slide sideways, fire, change weapons. That's the entirety of the listening that *Doom* can handle. Not very impressive in terms of quantity of listening, is it? Or consider another big hit of the last year, *Myst*. This game offers an even more limited set of verbs: "go where I clicked," and "operate whatever I clicked upon." Now, it's true that these verbs can mean a variety of things given the visual context. Thus, "operate whatever I clicked upon" can mean "open the door" or "throw the switch" or a variety of other things. So it's not quite fair to say that *Myst* has only two verbs. But it certainly doesn't have very many.

What's particularly sad about this is that the situation has gotten worse, not better. In the last year or two we've seen an explosion of multimedia products whose listening powers are even worse than those of most games. Many of these games have little more than "go to the next image" and "go back to the previous image," plus a few embellishments.

What do we need?

Obviously, we need to improve the listening skills of our designs. What, precisely, does this entail?

The brainless answer is that we need richer languages of expression for the user. We've got to give him better things to say, and above all, more verbs! But this raises a nasty problem: How do we increase the number of verbs without losing the audience in a maze of restrictions? I am reminded of *Civilization*, a game with a fairly rich set of verbs that also sported a 200-page manual. It would seem that we have a dilemma here: either we give the user a paltry verb set or we bury him or her under a huge manual.

There are three ways out of this dilemma, and we'll end up using some combination of all three. The first is to build up audience expectations of user interface. This is something that Macintosh users all understand, and DOS users just never got. The Macintosh has a large array of user interface standards that all programs (except those from Microsoft) adhere to. For example, Command-Q will always quit an application; Command-W will always close the topmost window; Command-P prints the document and Command-S saves it. The close box, scroll bars, and menus all have defined meanings that every Macintosh user quickly learns. The result is that Macintosh users can pick up a new program very quickly.

As game designers, we must recognize our own responsibilities here. Whenever somebody designs a game that has its own

custom version of scroll bars, or close boxes, or whatever, that diminishes the standard. So it's important that we all hang together on user interface issues. If there's a standard way to approach a problem, use the standard way. Rely on your own custom design only if you can prove to a skeptical observer that it's superior to the standard method.

The second method is to rely on the natural linguistic skills that all people have. Use linguistic structures where possible. Think in linguistic terms. What's the subject, the verb, and the direct object of this command? Present your interface in linguistic terms.

The third method is to throw some computer resource at the problem. Jeez, we have no problem throwing computer resource

The typical game gives the user very little to say or do, and then hoses him down with megabytes of audiovisual extravagance

at graphic problems. We use MBs of CD space, and megacycles of CPU time to come up with the sexiest graphics. Why not throw some of that resource at the problem of listening? For example, if you used a menu structure that presented the player with English sentences describing the player's options, then you could offer the player about a million different verbs with the expenditure of only 30 MBs of CD storage space. Think of what you could do with a million verbs! That's twice as many verbs as there are words in the English language! I grant, there are other problems to consider (who's gonna design all those verbs?), but the basic point — that expenditure of resource opens up doors — remains valid. **ng**

Finally, a thought on the copy that you find written on game boxes.

Jason Kargill sat alone at a table in the darkest corner of the little cantina. His fingers nervously caressed the handle of his laser blaster strapped to his hip. Through eyes narrowed to slits he watched the steady stream of customers coming and going. They widened slightly when the Zlarix walked in. So this was the one he'd been waiting to see all this time. This was the partner who would teach him to be a... Starlane Raider!!!

How many times have we all seen opening lines like these on our games? Dripping with purple prose, the text shouts romance, excitement, and adventure. It makes you want to buy that game, rush home, and enter the colorful world it promises — which, of course, is the whole purpose of the prose.

There's a problem with this, though: Have you ever noticed that the game you play really has nothing whatever to do with the text? You don't get to nervously caress the handle of your laser blaster; instead, you jerk your cursor all over the screen and blast hundreds of little green monsters over and over and over. You don't narrow your eyes to slits as you watch whomever. You don't betray your expectation when your new partner walks through the door; instead, you wander through long, confusing mazes in search of obscure puzzle parts.

Do you see the difference between the purple prose and the game? The purple prose drips with overdone emotion, but the game doesn't have any emotion, just a lot of logic and action. Isn't that odd? If our opening text were more honest about gameplay, it would read like this:

Jason Kargill looked in front of him. Streams of odd-shaped blue things with big teeth appeared. He pointed his laser blaster frantically around the room, blasting them. They kept coming, bigger and faster, and, he kept blasting. Then there were green things with bloodshot eyes, and he blasted them, too. After a while, they stopped coming, so he walked into another room where he saw a bunch of orange things with claws, he blasted 30 or so, then walked into another room...

Now this would be a lot more honest, wouldn't it? This would really communicate what the game is about. So why do we need that other kind of introduction? What deficiency in our games does the original text make up for? We are really like a little kid on a tricycle. We pedal our tricycle furiously, shouting "Vroom!" at the top of our lungs, and "Here comes the fire truck!" It's all great good fun. But what's really odd is that, as we continue to grow older, instead of actually building fire trucks, we just keep building bigger tricycles... **ng**

This baby's outta control.

60 levels packed with all-new surprises. Huge expanding bosses. And Yoshi — a cold-blooded baby sitter who spits fire and launches eggs out of his butt. He even morphs into a helicopter...

This little sucker doesn't just scroll left to right. He goes all over the place (and we don't mean Number Two).

Kicking, shrieking, crying, tantrums...and that's just the guys who bought new systems.

try that with your average lizard. And if that doesn't pacify you, there are over 130 different types of enemies. So, you may wanna put on a fresh diaper.

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